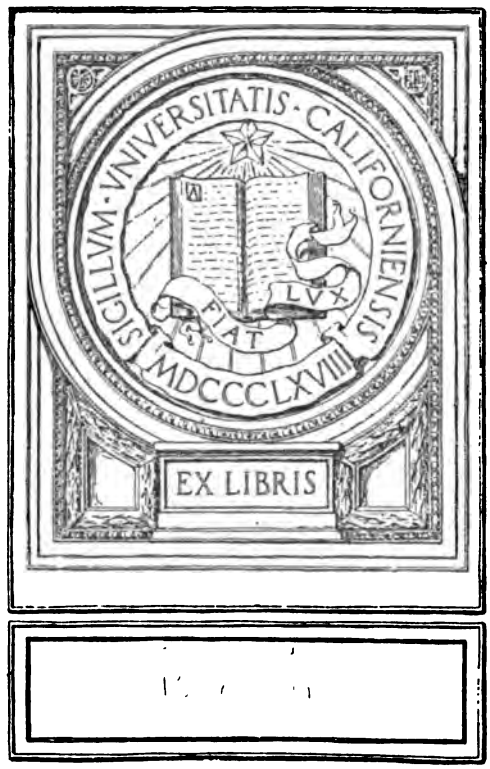
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Historical import of the orange industry in Southern California

By

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THESIS

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PREFACE.

The orange industry has been a potent factor in the growth and development of Southern California. We, who are Californians, have accepted the industry as one which possessed gigantic proportions at all times. The history of an industry, suggests at once a prosaic recital of economic facts and progress, lacking in true historical and social sense. The purpose, then, in writing this monograph has been two fold — first, the summation of the history of orange culture in Southern California and second, the relation of the industry to the growth and development of the State.

An introduction chapter on the westward migration of the orange was found necessary, in order that the reader may appreciate the historical value of this particular fruit. It is hoped that the chapters on the work of the Franciscan fathers and of the American fur traders, will arouse an appreciation for the contributions which they have made toward the beginning of a stupendous enterprise. The remainder of the monograph strives to show the synchronized development of the state and the industry. The introduction of factors which tended to encourage the growing of oranges, tended also to bring about a change in the State. The growth of both were interdependent.

Grateful acknowledgment is extended to Professor Charles Edward Chapman, who suggested the topic, and to Professor Herbert I. Priestley, whose kindness and patience are greatly appreciated.

Jessie Edna Boyd.

University of California
August 4, 1922.

CHAPTER I.

The Westward Migration of the Orange.

To appreciate fully, the history of the orange and its development as an industry in Southern California, it is of interest to trace this fruit from the time of its origin and early migrations through its introduction into the Americas.

The orange, commercially and historically, is the most important of the citrus fruits, and has come to be considered as an essential factor in the industry of California. Citrus fruits are described as:

> A small genus of rutaceous, often thorny trees and shrubs, natives originally of tropical Asia, but now widely cultivated for their fruits, known as citrus fruits, constituting one of the most important horticultural products. The genus is characterized by the alternate unifoliolate or trifoliolate leaves with a winged petiole tetramcious flower with many stamens; and large baccate fruit with pulpy endocarp and hard exocarp. Each of the species includes several distinct subspecies. The variety citrus medica is composed of citron, lemon and lime while the term citrus aurantium applies to the sweet, bitter and Bergamot oranges.[1]

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1. Webster, New International Dictionary of the English Language, 1920, 406.

The variety of citrus known as orange is described as a large globose fruit of the rutaceous tree, citrus aurantium.

Botanically the orange is a berry consisting of ten or more separable pulpy carpels, each containing several seeds and numerous juicy cells, the exocarp being a yellow or reddish yellow leathery rind. There are three principal subspecies of the orange, determined largely by color, shape, thickness of rind and degree of acidity. They are, 1. the sweet or common orange (citrus aurantium sinensis); 2. the bitter or Seville orange (citrus aurantium bigaradia); 3. the Bergamot orange (citrus bergamia).[2]

2. Webster, New International Dictionary of the English Language, 1920, 1512.

Just when the orange appeared on earth, no one knows, but there are those who would fancifully identify the orange to be the golden apples of Hesperides and others who consider it as the "forbidden fruit."[3] Aliño goes so far as to say, "Among the poets of antiquity, the garden of Hesperides was very celebrated, a place most interesting and enchanting, whose trees bore the apples of gold, that Juno gave to her brother Jupiter."[4]

3. A. Kinney, "The Orange, History, Analysis, Varieties," Pacific Rural Press, XXIX (1885), 282.

4. "The earliest illustrated description of a navel orange on record was published in Rome by a monk of the Society of Jesus, John Baptiste Ferrarius, in 1646, in one of four books called 'The Hesperides or About the Golden Apples, Their Culture and Use' (Coit, Citrus Fruits, 13).

The description of the golden apples which Atalanta paused to pick up in her race against Hippomenes compares more to our oranges today than to apples.[5]

5. B. G. Aliño, Tratado Completo del Naranjo, 1-2.

Passing from fabulous times to historic times, we note a decided difference in reference to the orange in relation to taste. To facilitate clearness and to trace consecutively the two types -- bitter and sweet, for each has a different origin, it will be to my purpose to treat each separately.

Bitter or sour orange.

The bitter or sour orange is a native of India. The Arabs pushing into the interior found the bitter orange in a flourishing state and held in high esteem by the natives. From the jungles, the Arabs carried the bitter orange by way of Arabia, Egypt and the north of Africa to Portugal and Spain.[6] Sufficient proof has been rendered that the orange

6. J. F. Wright, "The History of the Orange," Golden Era, XXXVI (1887), 208; D.J.B., "Remarks on the Orange Tree," Patent Office Report, 1858, (Washington, 1859), 266.

trees brought from India into Palestine, Egypt and Africa were

not the sweet fruited trees.[7] Up to the fifteenth century,

7. It is recorded that the orange reached Arabia at the end of the ninth century, was cultivated in Sicily in 1002 and was seen by the crusaders in Palestine (A. Candolle, Origin of Cultivated Plants, 184).
According to Masudi, it was not cultivated in Arabia itself until the beginning of the tenth century, when it was first planted in Oman, and afterwards carried to Mesopotamia and Syria (Encyclopaedia Britannica, XX (1910-1911), 148.

Arab books and chronicles only mention bitter or sour oranges,[8] which they called narunj and in Sanskrit designated as nagarunga, nagrunga.[9] The bitter orange was used chiefly by them for medicinal purposes as evidence has been found, when their physicians in the tenth century prescribed the bitter juice of this fruit.[10]

8. Candolle, Origin of Cultivated Plants, 186, citing Gallesio, Traite de Citrus.
9. In the modern languages of India the Sanskrit name has been applied both to the sweet and sour oranges. The name nagarunga was given when the sour orange reached Mesopotamia.
10. Candolle, Origin of Cultivated Plants, 184.

The first distinct notice of the orange on record is by Avicenna, an Arabian physician, who flourished in the tenth century.[11] The Pundits of Benares offer a later record in a

11. D.J.B., "Remarks on the Orange Tree," Patent Office Report, 1858 (Washington 1859), 266.

book on medicine called Mandanpâl nighùnt, dated 1411, Sùmbut which mentions both the sweet and the sour orange under the name of naràngi, as follows:- (a) Is sour-- sweet. It increases the appetite ..... (b) Is sour. It is extremely heating and hard to digest ....." [12] The Pundits in addition say that the derivation of the word naràngi is from nag-rang, the colour of sendùr or red lead. [13]

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12. E. Bonavia, Oranges and Lemons of India and Ceylon, 210.
13. Ibid., 215.

The bitter or sour orange was unknown to the early Greeks and Romans. Gallesio made a study of ancient travellers and geographers, such as Diodorus, Siculus, Nearchus, Arianus, and he found nothing in relation to the orange. [14] On the other hand Aliño states that Virgilo gives us to understand that this tree was not unknown to him and even when he designates it apple, it can be seen that the characteristics which he assigns to it, do not correspond to the apple that we know today but to the orange saying then malum areum, translated as apple of gold. [15]

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14. Candolle, Origin of Cultivated Plants, 284.
15. Aliño, Tratado Completo del Naranjo, 3.

Later the orange was introduced into Rome from Greece, who in her turn imported it from Persia, the cultivation being

very limited in the Roman Empire as it was not exported any where. In 1893 Aliño speaks of an orange tree existing in the courtyard of the convent of Santa Sabina of Rome, planted by Santo Domingo in the year 1200. Another existed also in the monastery of Tondi, planted by Santo Thomí de Aquína in 1278.[16]

16. Aliño, Tratado Compléto del Naranjo, 4, 7. By the sixteenth century the orange was commonly cultivated in Italy and seems to have been known there, previously to the expedition of Vasco da Gama (1497), as a Florentine narrator of that voyage appears to have been familiar with the fruit (Encyclopaedia Britannica, XX (1910-1911), 148).

Sweet Oranges.

This group of citrus fruits has often been designated by many names -- generally those denoting locality such as "Mediterannean Sweets," "Malta" oranges, etc. However, the term sweet orange is accepted as standard and has been used for hundreds of years. To Ferrari these fruits were known as aurantium vulgare medulla dulci, while Volckamer in 1713 called them aurantium fructi dulci.[17]

17. H. H. Hume, Citrus Fruits, 27.

Unlike the bitter orange, which represented the westward movement of peoples, the sweet orange found its origin in China and spread both to the east and to the west. Bonavia

offers the following:-

> It commenced in China or Cochin China and found its way to the Malay Archipelago. In the time of Rumphius there was a great number of Chinese residing in those islands. From the Archipelago, at some very distant time, it found its way to South India by means of traders, when it became naturalized and got the name of nàrtun on account of its fragrant flowers, rinds, and leaves. Eventually the Arab or other traders took it thence to Persia, where, as Professor A. Vanbery thinks, it may have got the name nàrandj, "like a pomegranate." But as it may have had already the first part of its name nar in Tamul, in connection with its fragrance, it is more likely that this part of its name went to Persia from South India with it. Then the ranj or rang may have been tacked on afterwards. From Persia, it got to Syria, Africa and Spain, under its Arabic or Persian name nàranj, and probably also back to Northern India, under the name of nárang.[18]

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18. Bonavia, Oranges and Lemons of India and Ceylon, 217-218.

That sweet oranges originated in China is evident when we consider that if sweet oranges had been cultivated in India at an early date, a special name would have been given to them in Sanskrit, the Greeks would have known it after Alexander's expedition and the Hebrews would have early received it through Mesopotamia. The fruit, because of its type, would certainly have been cultivated in the Roman Empire in preference to the lemon, citron and bitter orange.[19] The Chinese consider the

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19. Candolle, Origin of Cultivated Plants, 187.

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oranges, of which there are many varieties, as wild fruits and it cannot he doubted that most of them are indigenous and have been cultivated from early times.[20] Assuming then that

20. Candolle, Origin of Cultivated Plants, 177, citing Dr. Bretschneider, On the Study and Value of Chinese Botanical Works, 35.

the sweet orange originated in China, and Cochin China, we find that it has spread toward India at the beginning of the Christian era. Bonavia says that no one knows how the orange was introduced here (Sylhet). All agree that it is not indigenous and the legend has it that Hanumàn, a general of Rama, introduced the plant in his return from Sanka (Ceylon). Some people say seeds were brought from Assam proper.[21]

21. Bonavia, Oranges and Lemons in India and Ceylon, 226.

The Portuguese were the means of introducing the sweet orange into Europe. It is said that when the Portuguese arrived on the islands of Southern Asia, they found the sweet orange, and apparently it had not previously been unknown to them.[22] The Florentine who accompanied Vasco de Gama and who

22. Approximately in 1521 the orange was seen in the Moluccas by the Spanish according to Peter Martyr who commented, "It is however, my opinion, with the favour and leave of such delicate wits, that the islands abound with oranges, lemons, citrons, pomegranates and pot herbs " (Peter Martyr D'Anghera, De Orbe Novo, 5th decade, 7 book, translated by Francis McNutt, II, 163).

published an account of the voyage, mentions the abundance of oranges and adds, but all are sweet.[23]

23. Candolle, Origin of Cultivated Plants, 186.

The exact date of introduction into Portugal is uncertain. Sir Francis Cook said that he had much reason to believe it was introduced into Portugal by D. Joao de Castro, about the year 1480 and planted in the terraces of Ponka Verde, where its descendants still exist. On the other hand, Colonel Yule in his Glossary says that Hehn supposed the sweet orange was first brought by the Portuguese into Europe from China in 1548.[24] Gallesio maintains that the sweet orange was introduced into Europe towards the beginning of the fifteenth century;[25] but Targioni quotes from Valeriane, a statute of Fumo,

24. Bonavia, Oranges and Lemons of India and Ceylon, 225, citing Sir C. F. Bonham, secretary to the British legation, Lisbon, who wrote September 22nd, 1886.

25. The date of this statute as given by Targioni is 1379 and in another place 1309. The crata do not notice this discrepancy (Candolle, Origin of Cultivated Plants, 187).

of the fourteenth century, referring to citrons, sweet oranges, ..., and the information recently collected from early authors by Goeze about the introduction into Spain and Portugal agrees with this date. Probably oranges imported later from China by the Portuguese were only of better quality than those already

known in Europe, and that the common expressions, Portuguese and Lisbon lemons, are due to this circumstance.[26]

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26. Candolle, Origin of Cultivated Plants, 187.

The sweet orange, then, was approximately introduced in the fifteenth century--soon after its introduction into Europe, it was rapidly disseminated in the southern part of the continent.[27] The Arabs naturalized it in Portugal while the Italians carried it into Southern France. In 1421 the Queen of Navarre gave some seed to her gardener to sow in a flower pot. It grew in Pamplona and several years later was transported, this time to the castle of Chantilly where it remained until the rule of Francis I. In 1552 it was transported to Fontainebleau and later in 1689 Louis XIV had it sent to Versailles where it now remains after five centuries of existence.[28]

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27. Hume, Citrus Fruits, 28.
28. Aliño, Tratado Compléto del Naranjo, 5-8.

The orange achieved greater importance in the Iberian peninsula because of the maritime activities engaged in, especially by the Portuguese and followed later by the Spanish.[29]

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29. The Portuguese found the orange on the coast of Africa when they doubled the cape in 1498 (Gallésio, 240; Goeze, Beitrag sur Kenntniss der Orangengewächse, 1874, 13, quotes early Portuguese travellers on this head, according to Candolle, Origin of Cultivated Plants, 185).

To them lies the credit of carrying the orange into the new world.

Thanks to the Arabs, who on their many expeditions and journeys into the peninsula, brought from Asia, first the sour orange then later the bitter sweet orange (y toronjo o' zamboero). The Caliphs of Cordova fostered its cultivation which soon extended through all Andalusia and from there to Murcio and Valencia, constituting a most important wealth.[30]

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30. Aliño, Tratado Compléto del Naranjo, 5-8. San Isidoro of Seville tells us nothing in his treatise on "Country Things" about whether the orange existed during the time of the Goths (Ibid., 4).

The bigarade (citrus bigaradia) or wild orange, bitter and acid in flavour, is said to have been carried by the Moors into Spain for medicinal purposes, being used in cases of malarial and other fevers and for liver troubles in addition.[31]

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31. Kinney, "The Orange, History, Analysis, Varieties," Pacific Rural Press, XXIX (1885), 282.

Gabriel Alonso de Herrera in his work "General Agriculture" published for the first time in Alcala de Henares in 1513 and reprinted in Toledo in 1520, dedicates a chapter to oranges, citrons and lemons which begins,

> The oranges and these other fruits of its company are very nice and in the green-

> ness of their leaves, fragrance of the flowers, appearance and value of the fruit are nice and very valuable -- and they are such that one couldn't say that a garden was perfect where there is not some of these trees.[32]

32. Aliño, Tratado Compléto del Naranjo, 5.

Mention was made of diseases of citrus fruits in 1551 in a book published by Nicolas Monardes. Seedless oranges of excellent quality are reported to have been first cultivated by the Carthusian monks at Seville[33] while in 1610 Gaspar Escolano in his History of Valencia says that he heard a countryman boast of having thirty six varieties of oranges in his garden. Carlos Clusio, or De l'Ecluse, a Flemish botanist travelling in Spain in 1756 mentions the varieties known in that epoch and of which he gives a careful description.[34]

33. United States - Special Consular Reports, I (1890), Part 1, 565.
34. Aliño, Tratado Compléto del Naranjo, 5,

In 1890 several orange trees (bearing) were still standing in the garden of the Alcazar at Seville, to which very old age is attributed. One of the trees is said to have been planted at the time of King Pedro I, about 1350 to 1366, while the others date from the time of Charles I. The latter are in a better state, the foliage is luxuriant, although the

trunks are hollow.[35]

35. United States - Special Consular Reports, I (1890), Part 1, 565.

In 1492 the Spanish, represented by Columbus,[36] were successful in discovering the new world, making a discovery long coveted by the Portuguese in their attempt to find a new route to India. However, the latter were to figure largely in the introduction of the navel orange into Brazil from China and the bitter variety from Portugal.[37]

36. It is interesting to note the various uses of the orange. On December 18, 1492, an entry was made in the Journal of the First Voyage of Columbus, to the effect;- "I saw that he was pleased with some drapery I had over my bed, so I gave it to him (native king of the Island of Española), with some very good amber beads I wore on my neck, some colored shoes, and a bottle of orange flower water" (G.C.Lee, The History of America, I, 174).

37. A. G. Keller, Colonization, 138.

The West Indies were the first in the Caribbean area to receive the orange. The exact date of their introduction is a matter of conjecture, although it is known that Isabella and her successors were responsible for the introduction of the orange and other tropical fruits into Indies.[38] Acosto and

38. C.H.Haring, Trade and Navigation, 124.

Piso, who wrote extensively of their travels in the West Indies

and Brazil respectively, mention the orange among the fruits seen. It is safe to conclude then that oranges of some sort were well established in those parts of America which they visited prior to the years of 1600 and 1648.[39]

39. Hume, Citrus Fruits, 28; Keller, Colonization, 329.

Substantiating this conclusion, we find the following account in Oviedo's record of his travels in 1514:

> There have been brought to this island of La Española, oranges from Castile and there are so many of them here that the number has increased greatly. They are very good, sweet and sour, (both in this city of Santo Domingo as well as in all other parts of the island, where there are settlements of Christians in their states and gardens and wherever they wish to put them) and the same is true of the islands and the mainland wherever there are Spanish settlements.[40]

40. G. F. Oviedo y Valdes, Historia General y Natural de las Indias, Tomo I, libro 8, capitulo 1, 288.

When the English landed in Jamaica, they found the sweet and bitter orange and the lime.[41] Wild orange trees and other

41. United States - Special Consular Reports, I (1890), Part 1, 424.

varieties of the citrus are still found in abundance in the islands. It is evident that the trees have sprung up sponta-

neously from the seeds of the trees originally planted by the Spaniards, varying in size and every gradation from the lime to the shaddock.[42]

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42. D.J.B., "Remarks on the Orange Tree," Patent Office Report, 1858 (Washington, 1859), 266.

It is amusing to note the following excerpts taken from the diary of Nelson Kingsley, a California Argonaut of 1849, in relation to oranges:- "Port Praya, May 2, 1849,..... had oranges, bannanas: sent off to us by our Cap'n, the most delicious ever ate by me; May 3,..... we have bought some fruit--oranges of a good size for 50 c per hundred.....; May 5,..... went about the town -- took dinner at an old woman's house. She seemed quite cleaver -- got some boiled eggs casada bread ..... gave her (as she desired) a plug of tobacco in return brought off a quantity of oranges and other fruit today." (Diary of Nelson Kingsley, Ed. F. J. Teggart, in Academy of Pacific Coast History, III, 15-16).

On the other hand, O. E. Reimer, Consul in Cuba, offers the following explanation in relation to the origin of the orange trees found in the islands:-

> The wild orange found all through the mountainous and wooded districts of this island, is no doubt native thereto, as it is found in mountains and wildernesses where no human foot has ever trod before; where as the sweet orange was brought here last century and even earlier by the French and Spaniards and also the English from Trinidad and Martinique.[43]

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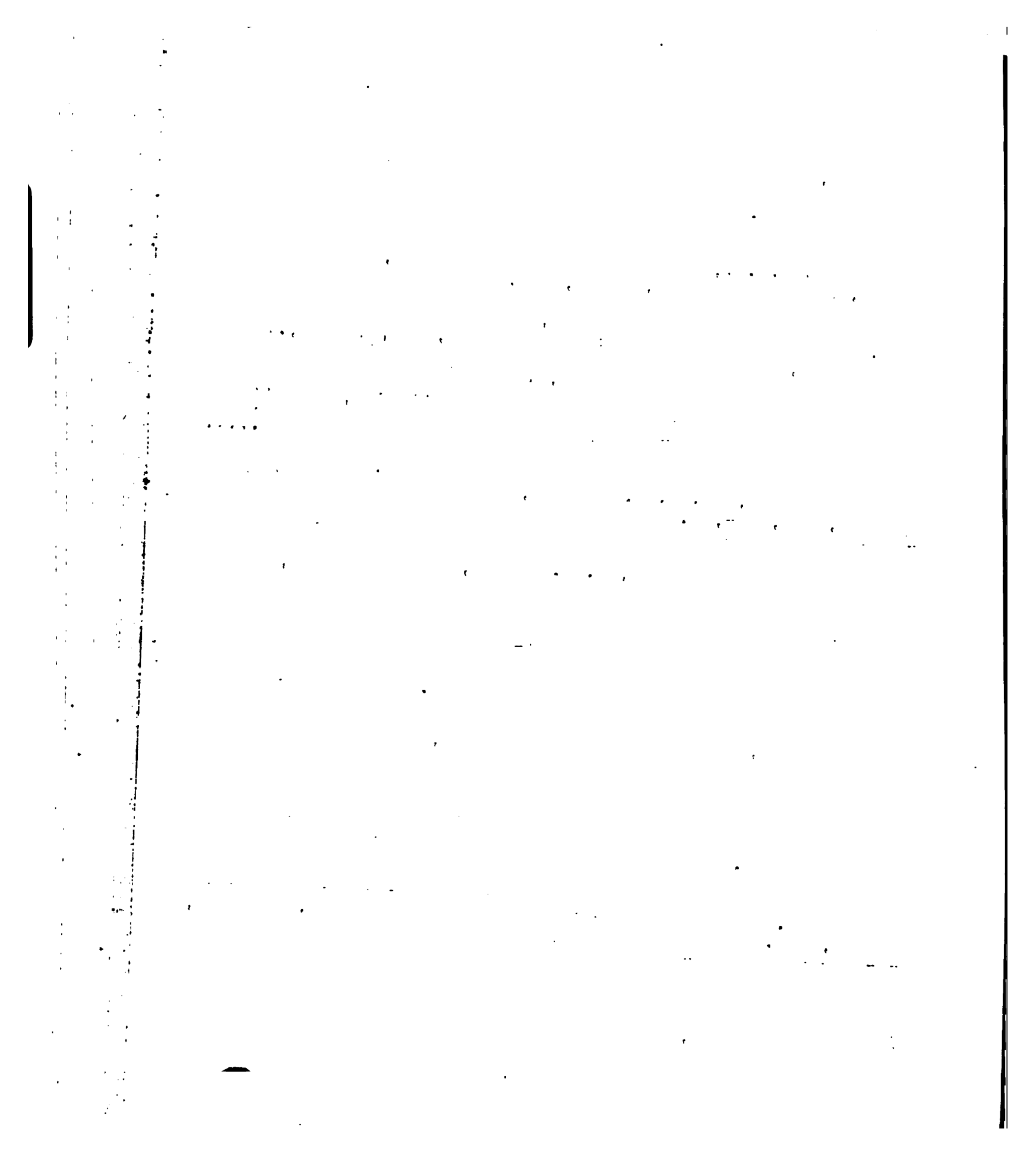
43. United States - Special Consular Reports, I (1890), Part 1, 430.

It is possible that the bitter orange may be a native in the West Indies, if we can accept the statement of Alphonse



de Candolle, who has made a thorough investigation of the origin of cultivated plants -- he says that agriculture came originally from three great regions in which certain plants grew, regions which had no communication with each other. These are - China, the southwest of Asia (with Egypt), and inter-tropical America.[44]

44. Candolle, Origin of Cultivated Plants, 17.

Little value was placed on the orange tree for it was later used to a considerable extent for affording shade in coffee plantations, particularly in Porto Rico and Jamaica.[45]

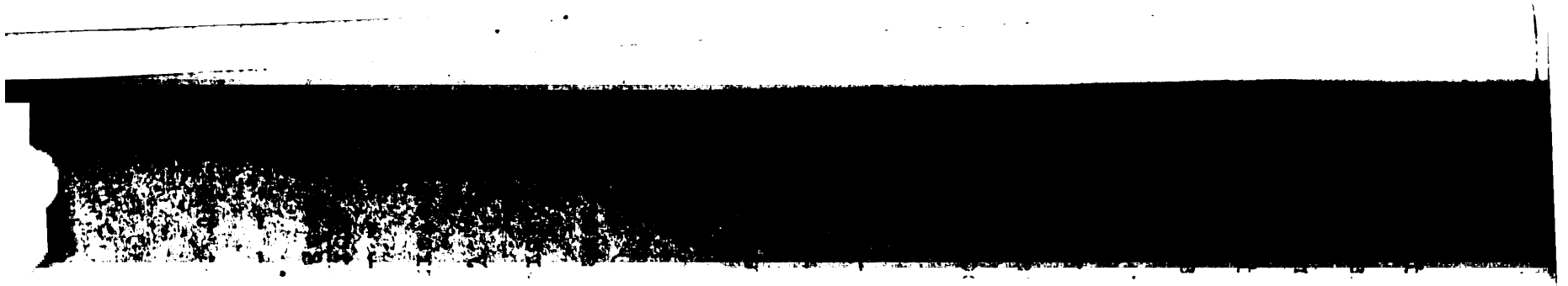
45. Hume, Citrus Fruits, 25.

The next step in the migration of the orange was brought about by the explorations made by the Spanish in Florida and the subsequent planting of settlements.

The Spaniards brought with them seeds of the bitter sweet orange, (which does not differ materially from the Seville orange, the term of which is popularly applied in Florida) which they planted in the early settlements.[46] The presence of large groves

46. D.J.B., "Remarks on the Orange Tree," Patent Office Report, 1858 (Washington, 1859), 266; E.P.Powell, "The Orange--Another of our First Families," Independent, LX (1906), 1086.

of wild oranges now in Florida is attributed to the fact that the



Spanish explorers and Indians, carried the fruit about on their journeys. The seeds were dropped when the fruit was eaten and finding in Florida and other regions a soil and climate adapted to their growth, grew up where they had been deposited. The wild seedlings were especially hardy and as a result large groves are still found along the shores of the lakes, rivers, and in the hammocks. Many groves are extremely dense and it is not uncommon to find four or five hundred trees growing on a single acre or crowded abundantly among the large oak and magnolia trees in the forests.[47]

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47. Hume, Citrus Fruits, 26; L.H.Bailey, Cyclopedia of American Horticulture, I, 322; III, 1154.
Hackluyt in 1582 mentions "oranges" under the "names of certain commodities growing in part of America, not presently inhabited by any Chritians, fro Florida northweard,gathered out of the discourses of Verarzanus, Thorne, Cartier, Ribalt Theuet and Best, which have bin personally in those countreys, and have seene these things amongst many others" (R.Hackluyt, Divers Voyages, Touching the Discovery of America and the Islands Adjacent, 140).

A further introduction of the bitter orange is attributed also in part to a colony of Greeks and Minorcans, who founded New Smyrna in 1769, while the country was in the possession of the English. In noticing this town in 1791, Bartram in his Travels observes:-

> I was there about ten years ago, when the surveyor ran the lines of the colony, when there was neither habitation nor cleared fields.

> It was then a famous orange grove, the upper or south promontory of a ridge nearby half a mile wide, and stretching north about forty miles..... All this was one entire orange grove with live oaks, magnolias, palms, red bays and others.[48]

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48. D.J.B., "Remakrs on the Orange Tree," Patent Office Report, 1858 (Washington, 1859), 267.

Early English settlers found the orange in abundance, especially the bigarade or bitter orange, while the sweet variety was found to be scarce in the native woods. The lack of the latter may be attributed to the difference in hardihood between the bitter and the sweet orange and also that the sweet orange was undoubtedly introduced later. The settlers early in the nineteenth century began the cultivating of groves and even before then, citrus culture received considerable attention by the inhabitants.[49] The cultivation of oranges soon spread from the very old groves of St. Augustine into new areas and over a considerable portion of that part of the United States bordering on the Gulf of Mexico and the southern part of Louisiana as well as Texas.[50]

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49. Hume, Citrus Fruits, 29.
50. A. J. Downing, Fruits and Fruit Trees of America, 691-692.

The Chinese mandarin orange was introduced into the Southern states by the Italian Consul at New Orleans, some time

between 1840 and 1850. The first trees were planted on the grounds of the Consulate at Algiers, across the river from New Orleans. From Louisiana this oriental variety was carried into Florida by Major Atway and soon spread throughout Alabama, Mississippi and Texas, where it is correctly known as the Satsuma. The original tree in 1907 was reputed to be growing in the grove of Dr. Morogne at Palatha.[51]

51. Hume, Citrus Fruits, 40-42.

During the same period of Spanish expansion into Florida and the Gulf states, the Spanish conquistadores were forging into Mexico. Unfortunately no record can be found of the introduction of the orange but it has been assured that the seeds of the fruits which had been transplanted in the West Indies, were soon carried to the mainland in the early sixteenth century. Only one variety of citrus was introduced at this time from the Orient, due to the extreme slowness of the passage from the Philippine Islands and Mariano to Acapulco, and the inconvenience of exporting the less valuable seeds in the overcrowded Manilla Galleons.[52] This plant, the triphasia aurantiola

52. However it is said that the conqueror's luxurious taste soon drew from China, raw silks and velvets, "brocades of gold and silver upon silk"....., "preserves of oranges and peaches" [I.B., California under Spain and Mexico, 14; citing Antonio de Morga, Sucesos de las Islas Filipinas 1609 (Hon. H. E. J. Stanley, 1868), 336].

(limona trifoliata), more of an elegant shrub and according to Lonreiro, was identical with the citrus trifoliata or karatats.[53]

53. A. Humboldt, Political Essay, II, 466.

Cortés was known to have earnestly recommended the crown to require all vessels coming to this country, to bring over a certain quantity of seeds and plants..... "Under the sun of the tropics, the peach, the almond, the orange,..... before unknown there, flourished in the garden of the tableland..... The importation of a European fruit or vegetable was hailed by the simple colonists with delight."[54]

54. W. H. Prescott, History of the Conquest of Mexico, III, 269.

Humboldt in 1800 mentions seeing a number of orange trees at which he expresses great surprise, because of their ability to grow on the central tableland in Mexico. In addition he remarks:-

> .....It has frequently been discussed, if these trees existed in the Spanish colonies before the discovery of America, or if they were introduced by the Europeans from the Canary Islands, the islands of St. Thomas or the coast of Africa. It is certain that there is an orange tree, of a small and bitter fruit..... growing wild in the island of Cuba and on the coast of Terra Firma..... I am inclined to believe that only

> the citron tree..... and the sweet orange were introduced by the Portuguese and Spaniards.[55]

55. Humboldt, Political Essay, II, 468.

The orange in Mexico was cultivated on a small scale in relation to other tropical fruits. That the orange existed and in some places grew wild we are positive, however the trees were cultivated alone for home consumption. In 1889 Mr. Willard, United States Consul at Guaymas, in his special report, writes in regard to the orange:-

> I am told that the first plants or cuttings of oranges cultivated in Sonora were brought by the Jesuit fathers ninety years ago from Italy, and planted at the Missions of San José de Guaymas and Humosilla. But little attention was paid to their cultivation excepting for home consumption as there was no market for them on the coast.[56]

56. United States - Special Consular Reports, I (1890), Part 1, 407.

Through the labors of the Jesuits the next step was brought about in the migration of the orange toward Alta California. The first mission was established in Lower California at Loreto in 1697 by Father Salvatierra. From then on cattle and horses as well as European fruits and vegetables were introduced--the latter we know because of the existence of a small garden at Loreto in 1701. However, Loreto was not fitted for agriculture

and an expedition was sent out in charge of Father Ugarte who ceaselessly toiled in his attempt to make agriculture flourish. He established a mission at Viggé-Biaundó where he made irrigating ditches and planted fruit trees and vines.[57] He was successful for Father Ugarte, writing to Don Joseph de Miranda, on the ninth of June, tells him, "It is now two months since seamen and landmen eat here good bread of our harvests while the poor on the other coast, in Sinaloa and Sonora, are perishing, who would have dreamed of any such thing?"[58]

57. T. Hittell, History of California, I, 177, 190, 193; Fr. Zephyrin Engelhardt, Missions and Missionaries of California, I, 123.
58. M. Venegas, History of California (1757), I, 321.

The Jesuit fathers continued the good work of Father Ugarte and at the majority of missions gardens were planted with fruit trees such as the fig, orange, citron, pomegranate.....[59] In 1728 Father Luyanda no doubt included oranges among the fruit trees planted at San Ignacio.[60] Fruit culture early engaged

59. Hittell, History of California, I, 283.
60. A. Forbes, California, 50.

the attention of residents of Lower California, (aside from the padres) and voyages made during the beginning and later part of the nineteenth century contain mention of the delicious fruits bought in the harbors of Lower California and the pleasant

experiences of sailors who strayed inland and visited the valley fruit farms.[61] The expulsion of the Jesuits in 1767

61. E.G.Wickson, "California Mission Fruits," Overland, XI (1888), 501.

severely hampered the temporary development of the missions in Lower California. Fortunately their work was carried on by the Franciscans, and two years later the first mission was established in Alta California at San Diego, where seeds of various European fruits took root.

Thus we are able to trace the westward migration of the orange. Originating in China, the sweet orange moved westward into India, Persia and Syria, while the bitter orange found its way into Arabia and Spain. Aliño well summarizes the migration in the following manner:-

> The Arabs introduced and naturalized it in Portugal and Spain; the Italians in the south of France; the Spanish in the Island of Cuba, California, Florida, Louisiana and Mexico; the Portuguese in Brazil, the Azores and the Island of Cabo Verde; the Dutch in Guiana, Australia, Tasmania, Caledonia and other islands, the English in the Cape of Good Hope, their possessions in India and the Antilles and the French in Madagascar. Today the exploitation of the orange has extended so much that its geographic area is one of the most extensive among the individual varieties of the fruit kingdom.[62]

62. Aliño, Tratado Compléto del Naranjo, 7.

CHAPTER II.

The Orange in Southern California, 1769-1850.

From 1769 to 1821, Spain held sway over California. This period was one of ceaseless activity for the Franciscan friars, who courageously carried out their two fold purpose; first, the conversion of the Indians, and second, the protection of the Spanish frontier by the extension of the mission system along the California coast. Cultivation of the land and the raising of cattle were an integral part of every mission established. Fruit trees were carefully planted in all of the missions in Alta California, except the three northernmost. In the region now commonly designated as "Southern California,"[1] it was soon discovered that tropical fruits and especially the orange, flourished. Thus the thriving orange industry of today, found its modest beginnings.

1. Under the term of "Southern California" is included all that portion of the state lying south of the watershed extending from Tehachapi Range west through the Santa Ynez Range to Point Concepcion. This area comprises seven counties--Santa Barbara, Ventura, Los Angeles, Orange, Riverside, San Diego and San Bernardino Counties (H. W. Fairbanks, California, 74-5).

The year 1821 marked the formal beginning of Mexican independence and accordingly the government in California changed. The old régime passed and Mexican governors supplanted the governors of Spanish blood. To the friars the situation was

odious, for the government represented a difference in race, law and understanding. Plans for the secularization of the missions were begun which, when the laws were passed in 1833, brought about a general decay in the mission system and so disheartened the friars, that they slaughtered and sold large numbers of cattle and allowed the fields, gardens and orchards to go uncultivated.

Up to this time, the orange was cultivated only in the mission gardens. Fortunately interest was aroused among early American settlers and other foreign ranch owners in the vicinity of Los Angeles, in the planting of orange seeds in their own courtyards and orchards. This second period, which saw the decay and devastation of the missions, witnessed also the beginnings of secular agriculture.

The Society of Jesus being suppressed in Mexico in 1767, the viceroy, the Marquis of Croix,and the visitor-general, José de Gálvez, agreed to offer the missions of Lower California to the Franciscans of San Fernando, Mexico. Although there were only a few missionaries at the college, the superior found himself bound to accept the trust,[2] Father Junípero Serra, because

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2. Father Palou writes, "The college saw itself obliged to accept the missions which the expelled Fathers administered (notwithstanding the dearth of religious in which it found itself) in order to make this sacrifice to God and King" (Fr. F. Palou, Relación Histórica de la vida y Apostólicas Tareas del Venerable Padre Fray Junípero Serra, capítulo 12, 53-54).

of his "promptitude and obedience," was appointed Father President of the California missions.[3] Visions of pushing into

3. Palou, Life of Ven. Padre Junipero Serra (tr. by Very Rev. J. Adam, 1884), 23.

Alta California, long entertained by both the secular and clergy in Mexico were now to be realized and plans were immediately set on foot to send expeditions to San Diego.

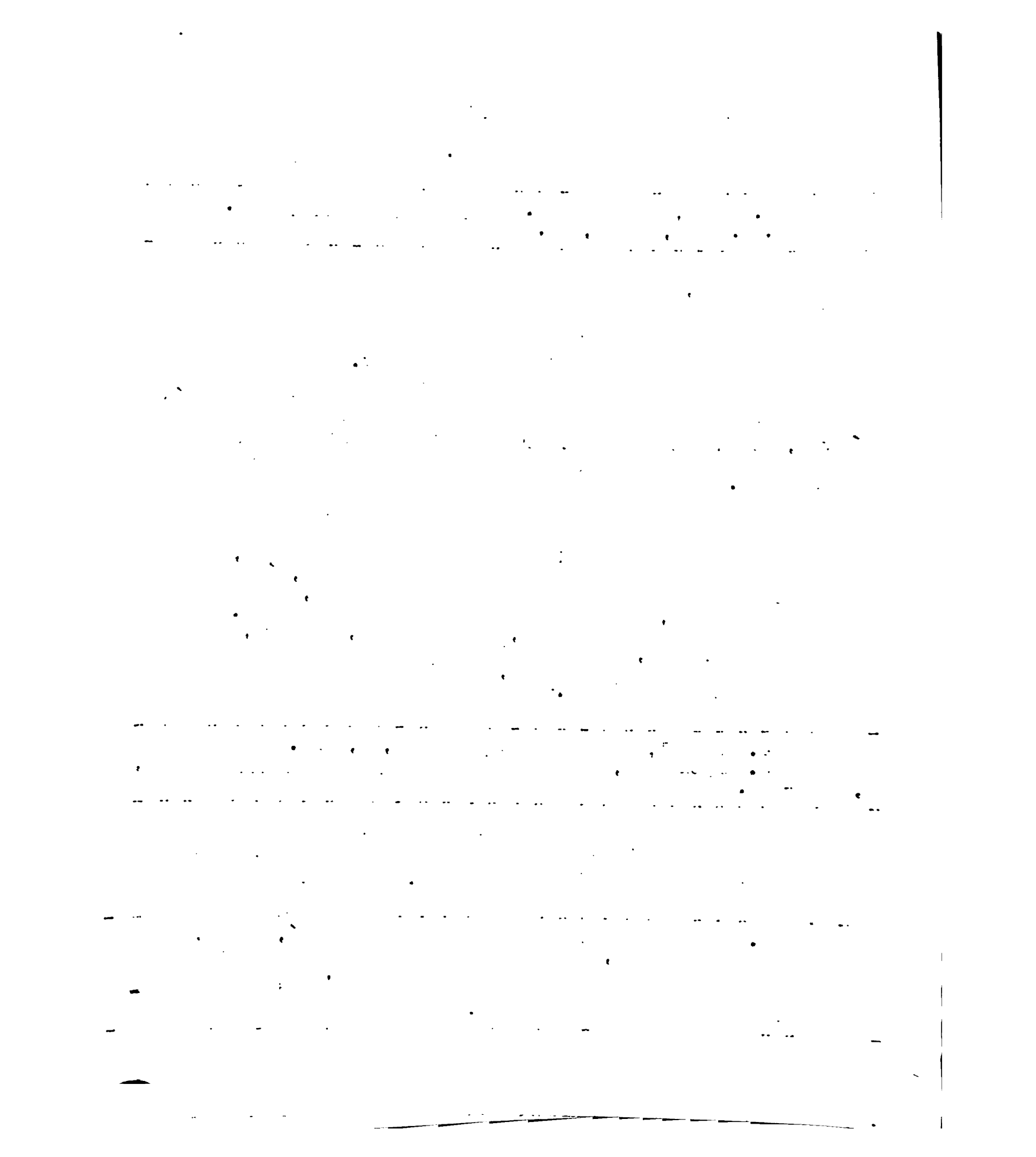
Control of California affairs was taken over by José de Gálvez, acting as special representative and minister of King Charles III.[4]

> In order that the new establishments might be founded and managed after the system observed by the Franciscans in the Sierra Gorda Missions, which was in accordance with his own ideas, Gálvez ordered that all kinds of household goods, field implements, and iron ware should be taken along. He added various grains, garden seeds, flowers, and flaxseed, as he considered the soil of Upper California to be fertile, and in this opinion he was not deceived.[5]

4. Hittell, History of California, I, 512.
5. Engelhardt, Missions and Missionaries of California, I, 335-336.

Unfortunately an enumeration of varieties under the general term "seeds" could not be found.[6] That the orange was

6. A search through the diaries of Portolá, Palou, Pedro Font (Anza expedition), Pedro Fages and Costanso did not disclose any enumeration of fruits or seeds of any kind, which would identify the orange as one of the fruits included in the provisions for the expedition northward.



growing in Mexico by this time we know.[7] We are led to believe that the bitter sweet orange might have been included under the supply of sour fruits ("precious against scurvy in latitude 30° and beyond")[8] which Gálvez mentions in his letter to Palou.

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7. Dr. John Francis Gemelli Careri in his account, A Voyage Round the World, mentions seeing the orange on his journey to the Imperial City of Mexico in 1698. The orange grew abundantly, for he writes, "In the thickest of the wood, I found many fine oranges and lemon trees, whose fruit was lost for somebody to gather it" (Churchill, Collection of Voyages and Travels, book IV, chapter 2, 477).

8. I. B. Richman, California Under Spain and Mexico, 1535-1847, citing Gálvez to Palou, two letters, October 7, 1768 (M.A., Museo, Docs. Rel. á las Mis. de Califs., Qto i).

Three missions were to be established in Upper California, one at San Diego, another at Monterey, and a third between the two places, to be known as "San Bonaventura."[9] Accordingly, two expeditions were to be sent to San Diego, one by land and one by sea. The one by sea was soon made ready and according to Costansó, "the packets San Carlos and San Antonio were to touch at the Port of La Paz in Southern (Lower) California, and to sail from there with the troops, tools and provisions for the new settlements of San Diego and Monterey."[10]

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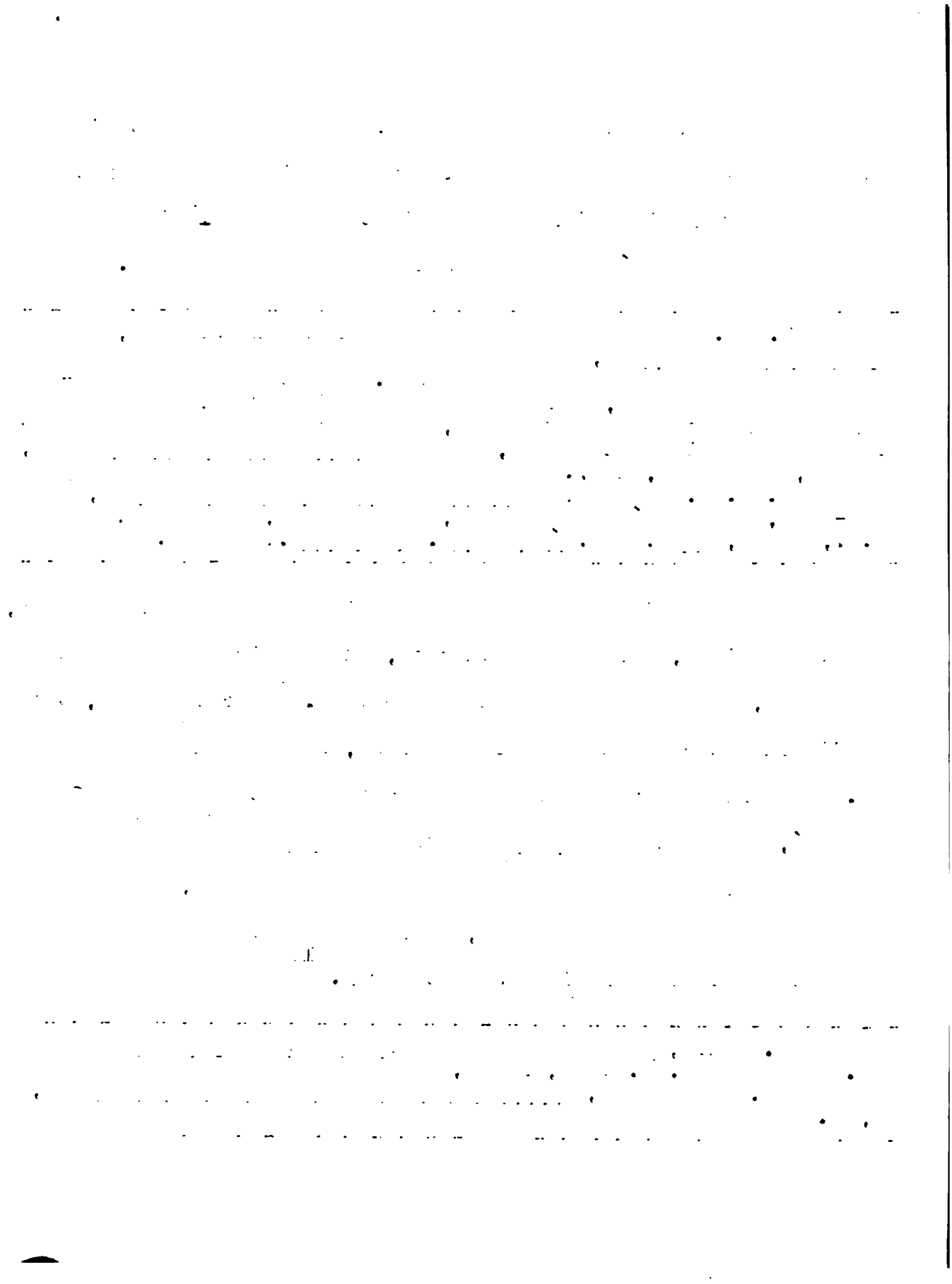
9. Palou, Life of the Venerable Padre Junipero Serra (tr. by Very Rev. J. Adam, 1884),

10. Engelhardt, Missions and Missionaries of California, II, 8.



The San Carlos, under the command of Vicente Vila, was the first to spread its canvas. Although a small vessel, of not more than two hundred tons burden, it carried sixty two persons in all besides a heavy cargo.

> .... Its cargo in addition to camp equipage, church ornaments, agricultural implements and tools, consisted of a full supply of provisions and last, not least, of many kinds of seeds of the New as well as of the Old World, not forgetting flax, garden vegetables and flowers.[11]

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11. Hittell, History of California, I, 309.

The uncertainty and danger of a sea voyage made it necessary for the majority of the people to take the overland route. On June 28, 1769, Father Junípero and Governor Portolá arrived at San Diego Bay, after a long wearisome journey of two months, to find the ships already at anchor. "No sooner were the forces reunited than the cross was raised, a mass was said, and the spiritual conquest of California begun."[12]

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12. K. Coman, Economic Beginnings of the Far West, I, 121.

Experiencing great difficulties with the Indians and with the land, and suffering great hardships, the fathers

pushed on, establishing missions wherever they found the best localities. South of the Tehachapi Range, six missions were established, destined to rival and in some cases far surpass the mission at San Diego.[13]

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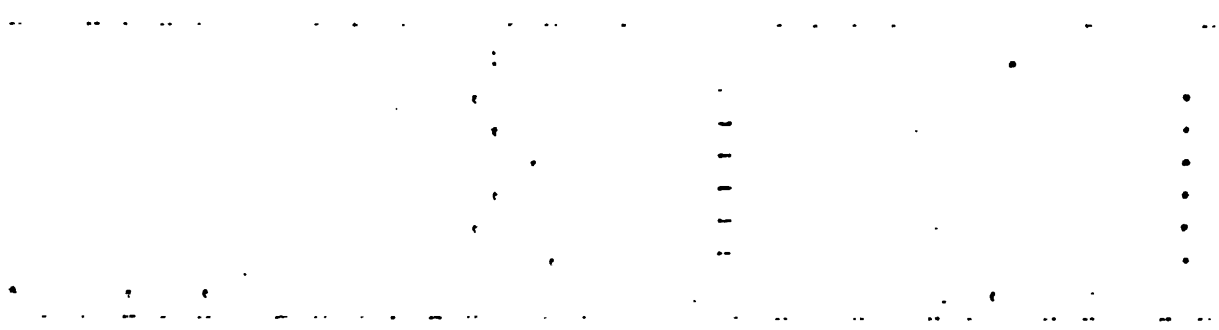
13. The missions founded were:
1. San Gabriel Archangel - September 8, 1771
2. San Juan Capistrano - November 1, 1776
3. San Buenaventura - March 31, 1782
4. Santa Barbara - December 4, 1786
5. San Fernando Rey - September 8, 1797
6. San Luis Rey - June 13, 1798

(Englehardt, Missions and Missionaries of California, IV, 529).

Wherever these devoted men planted the cross in the new territory, there also they immediately sowed the seed or planted the seedling of some semi-tropical fruit. Gardens, vineyards, and orchards surrounded all the missions of Alta California. As a rule the mission orchards were small, and some consisted of few trees and varieties comprising the olive, lemon, fig, peach and orange, nevertheless they were varieties which were to become important. The familiarity of the friars with their culture in Spain and Mexico, enabled them to achieve considerable success without encountering the many problems which later confronted the owners of



orchards.[14] It is indeed fortunate, that the trees thrived, for

14. T. Evans, "Orange Culture in California," Overland, XII (1874), 235; J. W. Dwinelle, Colonial History of San Francisco, 44; Hittell, History of California, II, 474.
Fruit trees were introduced in the southern part of Alta California, earlier and with greater success, than in the northernmost missions. In September 1786, la Peyrouse visited Monterey and remarked that "fruit trees have not yet been introduced in any considerable number or variety" (M. de la Peyrouse, A Voyage round the World, Performed in the Years 1785, 1786, 1787, 1788, abridged from the original French journal of M. de la Peyrouse, printed in Boston 1801, 97). Twenty years later, an observation of this country, was made by Langsdorff, accompanying the Russian expedition. In regard to the mission at San Francisco, "There was nothing in it, but some sorts of pulse and culinary vegetables, with a few stunted fruit trees, which scarcely bore any fruit...." While the Mission "San Josef," at a distance of sixteen leagues on the opposite shore of the bay, offered a more promising situation, "... the soil is everywhere rich and fertile, and yields ample returns. The fruit trees are still very young, but their produce is as good as could be expected" (G. H. von Langsdorff, Voyages and Travels in Various Parts of the World during the years 1803, 1804, 1805, 1806, 1807, Part II, 161-172, 193).

they played an intrinsic part in the horticultural advancement in the state which was to follow later. The trees moreover showed possibilities in fruit culture, and furnished seeds, stocks, and scions for many orchards.[15]

15. B. M. Lelong, Culture of the Citrus in California, 11.

Following the establishment of a number of missions, it was soon found advisable to adopt a plan of colonization other than missions or presidios. In 1775 Felipe de Neve was appointed Governor of the two Californias by the viceroy, Bucareli. As

"a man endowed with zeal and intelligence" he set about carrying out the viceroy's plan of colonizing the north coast with Spaniards.

> .... In 1777 de Neve removed from Loreto to Monterey, thus indicating that Alta California was regarded as the more important province. On his journey north he visited the several missions and came to the conclusion that, although wheat and corn were being successfully grown at San Gabriel and San Antonio, the mission fields could probably do no more than provide for the increasing number of neophytes. If the presidios were ever to be provisioned from the country, California must have agricultural colonies. The Franciscans had selected the most favored locations, but the valleys of the Porciúncula and the Guadalupe were yet available.[16]

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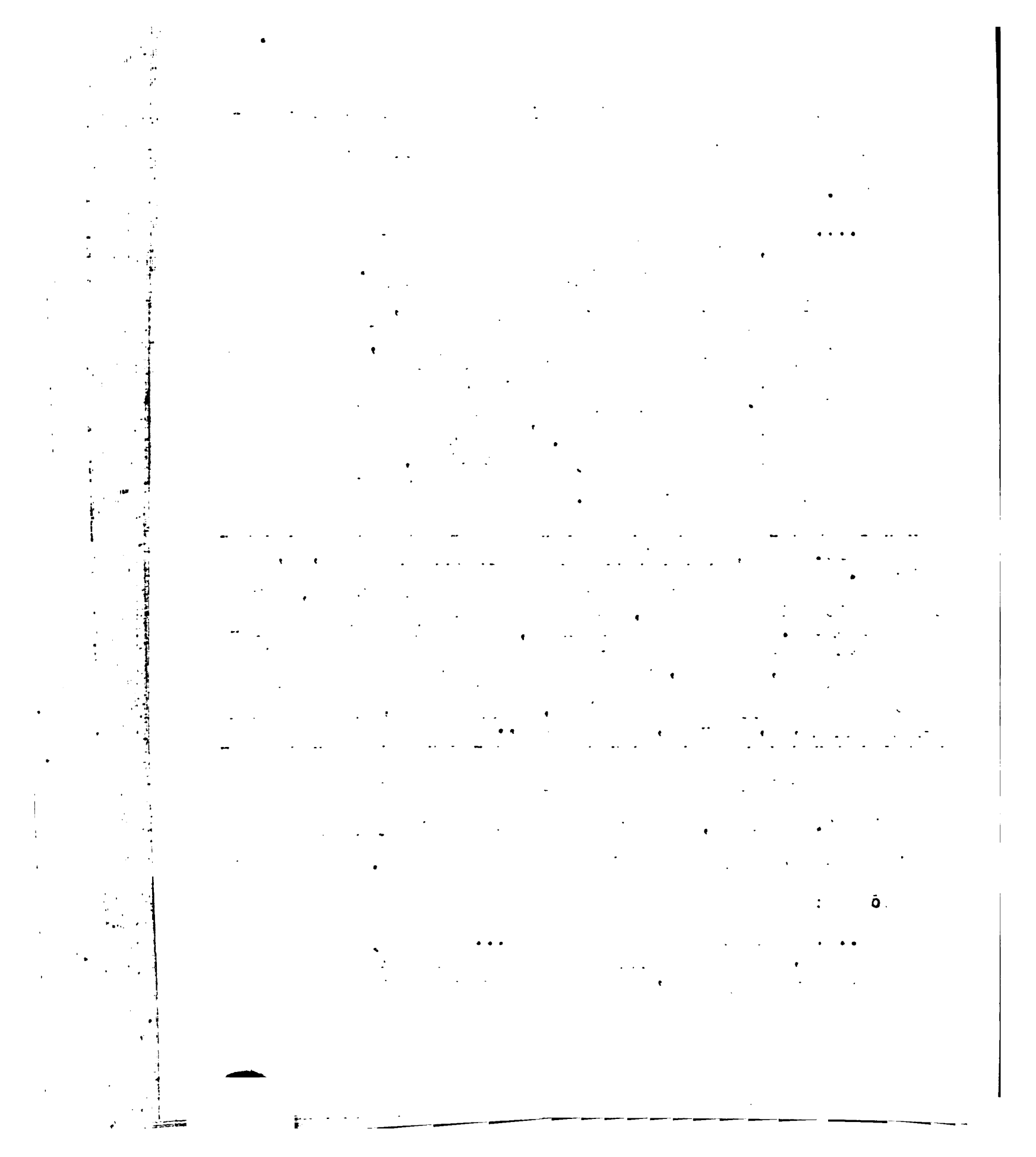
16. Coman, Economic Beginnings of the Far West, I, 132-133.

The need for more crops was a pertinent one, for the missions in some cases, were hardly able to take care of the neophytes. At San Diego in 1787, it was impossible to increase the number of neophytes because of the lack of crops and other food, in fact, not more than twenty of the four hundred neophytes could be fed or gathered together during that one year (California Archives, State Papers, Missions and Colonization, I, 486-505, paragraph 8).

Accordingly San Jose was founded and proved a successful experiment. In 1781, de Neve issued his famous Reglamento fixing the conditions for all subsequent colonies. The object stated was:

> .... to make this vast country ... useful to the State, by erecting pueblos of gente de razón (people of reason, in distinction from the



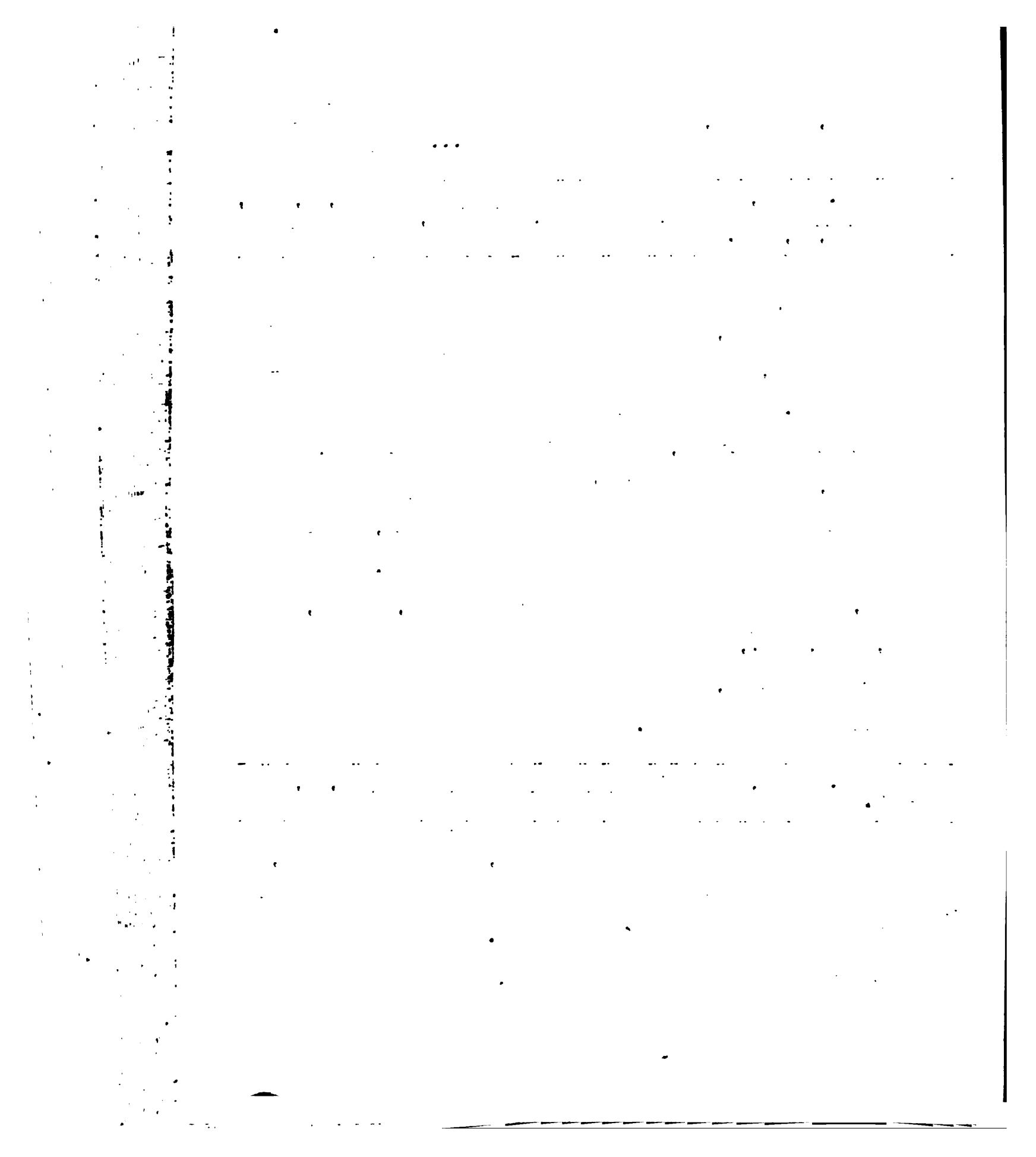
> savages) who being united may encourage agriculture, planting, the breeding of cattle and successfully the other branches of industry...[17]

17. Coman, Economic Beginnings of the Far West, I, 135, citing Reglamento de Neve, Section V, Rockwell, Spanish and Mexican Law, I, 445.

Each poblador was to be granted a total of twenty eight acres or there about, including a house lot and two suertes (piece of ground, drawn by lot) of irrigable and two of non-irrigable land. In the meantime the settler was to build his own house and live in it, plant fruit trees on his land, ten to a suerte, double his original endowment of cattle and tools and perform his due proportion of the public works, in order to have the title assured at the end of five years. In addition, advances made to the settlers in money, horses, cattle, seed, etc., were to be refunded within five years of the first occupation, out of the produce of their lands and the increase of their stock.[18]

18. Coman, Economic Beginnings of the Far West, I, 135-137.

In 1781 the new governor-general, Theodore de Croix, helped to fulfill the plans of de Neve in ordering the founding of a pueblo on the Porciúncula River. He got together all the colonists recruited from Sonora, Sinaloa and Guad-



alajara[19] who had come out for this purpose, and assigned them lands and a townsite on the banks of the river about four leagues to the northwest of the Mission San Gabriel.[20] The town was founded under the name of El Pueblo de La Reina de Los Angeles de Porciúncula, but was known more generally as Nuestra Señora de Los Angeles de Porciúncula.[21]

19. Coman, Economic Beginnings of the Far West, I, 137.

20. Palou, Life of Padre Fray Junipero Serra (tr. G. W. James 1913), 236; Fitch, Junipero Serra, The Man and His Work, 325.

21. The Porciúncula River was first seen by the Portolá expedition in 1769. The expedition reached it August 2 and, "on account of the festival of the day previous, known in the Catholic calendar as that of Nuestra Señora de los Angeles de Porciúncula, had given it that name." The river is now known as the Los Angeles River (Hittell, History of California, I, 434).

Similarly to San Jose, the site for Los Angeles was chosen with a view to agricultural purposes. "For grain the extensive plains about San Jose were more favorable than those near Los Angeles, while for oranges, figs and pomegranates the fields at Los Angeles were best."[22]

22. Hittell, History of California, I, 435.

Unfortunately the original colonists were neither progressive nor thrifty and were slow to meet their obligations for in 1786, five of the twelve original settlers were rejected, when the land grants were confirmed.[23] Conditions forced Governor

23. Coman, Economic Beginnings of the Far West, I, 137-138.

Foges the following year to issue a long series of instructions to the corporal of the guard of Los Angeles with the underlying purpose of promoting industry and thrift. The instructions included agriculture and other industries, and in particular the employment of Indians.[24]

24. Hittell, History of California, I, 532.

The pueblo grew slowly and with all its advantages of climate and fine soil, the town was still miserably small in 1796. In an effort to counteract such an unpromising condition, a new distribution of building lots was made and in 1798, "Borica (the last of the statesmanlike governors) ordered the irrigating canal then existing, to be extended, and more fruit trees, vines and gardens to be planted."[25]

25. Ibid., I, 577; Ibid., I, 615-616, citing California Archives, P. R. VI, 184.

Agriculture as a whole proved unsuccessful except in the missions. The underlying cause of failure in the pueblos was due in great part to the type of colonists. Reared with an inherent distaste for work and being naturally of an undesirable type, they made no effort in Alta California to change their lazy, shiftless habits. Indian labor was cheap but not productive except under the command of the fathers. There was no one then to diligently and consistently pursue agriculture.

"The climate, moreover, was delightful but enervating, and the very ease with which food and shelter might be had, acted as a deterrent to labor."[26]

26. Coman, Economic Beginnings of the Far West, I, 142.

On the other hand, the splendid type of governorship exhibited by de Neve and Borica did not exist in their successors, for they gave slight attention to industrial interests while the friars are reputed to have discouraged the growth of fruits outside the mission walls, in innumerable ways.[27] Out of this discouraging condition of 1800, the pueblo of Los Angeles and its immediate vicinity were eventually to prove the nucleus of the orange industry.

27. Ibid., I, 142.

In contrast with the pueblo was the flourishing condition of the missions, San Gabriel Arcángel, in the middle of the plain east of Los Angeles, especially demonstrated the wonderful potentialities of the soil. Founded by Father Pedro Benito Cambon and Angel Somera, it had steadily grown in neophytes and agricultural wealth.[28] As Father Serra approached

28. Hittell, History of California, I, 342.

San Gabriel,[29] in 1784, "he saw the large, flourishing fields, the orchards, the vegetable gardens, and the busy neophytes in their midst. San Gabriel was one of the richest missions of California."[30]

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29. The orange orchard at San Gabriel was "supposed to have been set out in 1804 by one Father Thomas Sanches" (Lelong, Culture of the Citrus in California, 17).

30. A. H. Fitch, Junipero Serra, The Man and His Work, 345.

As early as 1792 there were about five thousand trees growing at different missions consisting largely of apples, pears, oranges, lemons, limes and olives.[31] At San Gabriel the ground given over to the culture of oranges far surpassed any other mission. Robinson, during the several years spent in California, spoke of the extensiveness of the gardens attached to the mission in which could be found "oranges, citrons, limes, apples, pears, peaches, pomegranates, figs, and grapes in abundance."[32] Eugene Duflot de Mofras, eleven years later

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31. "Orange Culture in California," Scientific American, LXXXVIII (1903), 466.

32. A. Robinson, Life in California, 32.

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described the mission of San Gabriel and in view of adverse conditions which the mission system as a whole had met in 1833, it is surprising to find the abundance of fruits. He wroter

> .... There are fine clumps of palm trees near the mission, and three grand vineyards, containing

> nearly two hundred thousand stocks. There are also four superb orchards, kitchen gardens, an immense garden of olives and another containing four hundred orange trees. The vineyards, gardens and orchards were surrounded by an impenetrable hedge of prickly pear, or Barbary figs.[33]

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33. E. Duflot de Mofras, Exploration du Territoire de l'Orégon, Des Californies et la Mer Vermeille, I, 350. Difficulty in raising fruits was often due to the existence of wild cattle. Fences of various materials were utilized for protection, such as the prickly pear hedge above and adobe walls. At the close of the year 1794, Father Mariner and Torrent write, ".... a vineyard and a grove have been surrounded with a wall of adobe forming a circuit of five hundred varas" (Engelhardt, San Diego Mission, 147).

Although traditional evidences do not exist in the other missions of Southern California, we are safe at least to make the conjecture that at San Diego, San Juan Capistrano, San Luis Rey, and San Fernando missions, the orange was cultivated to some extent. Various accounts of the early travelers confirm our belief.

Captain George Vancouver of the British sloop-of-war Discovery, visited California on several occasions in 1792 and 1793.[34] In December 1793, this distinguished visitor observed the

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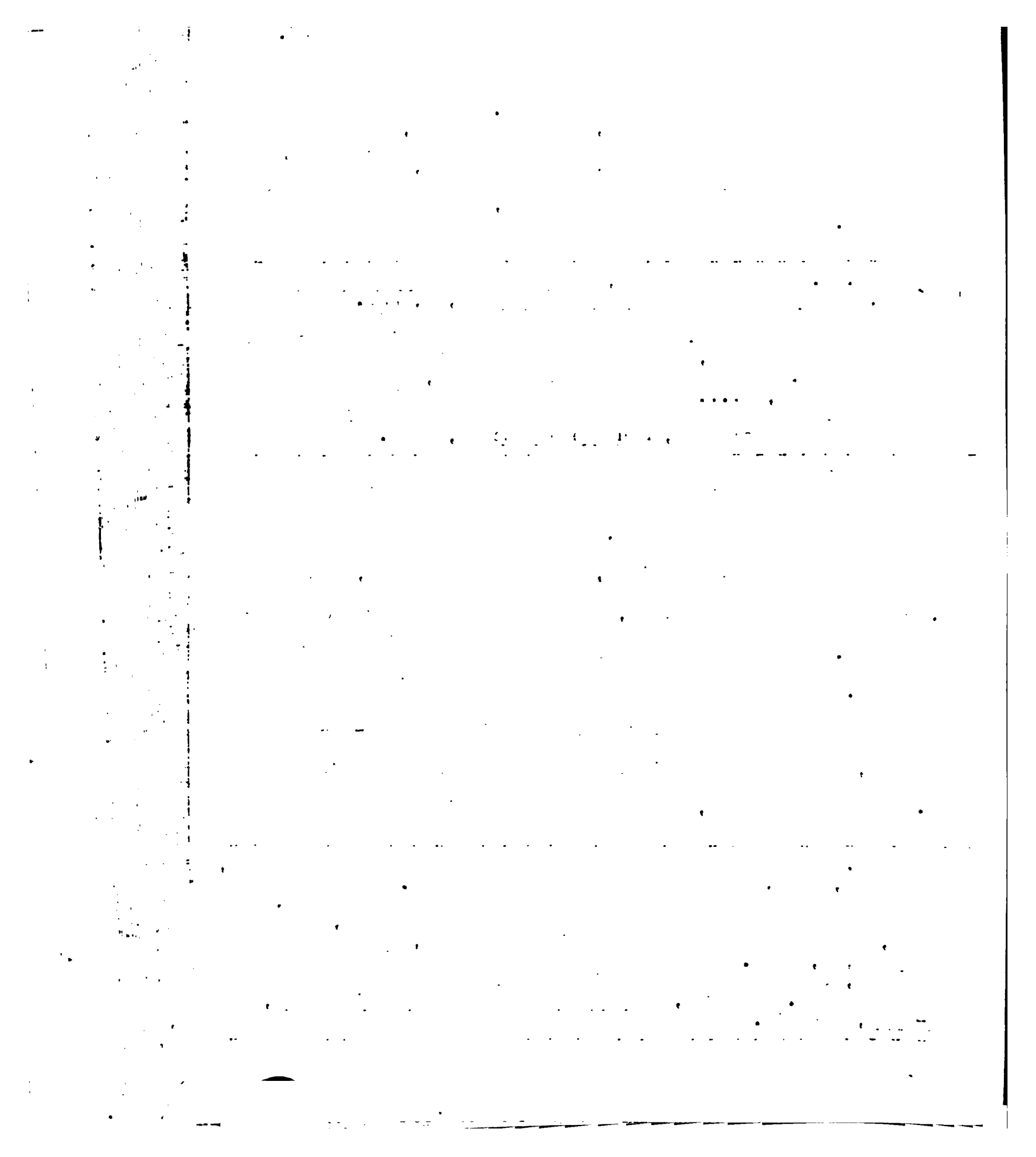
34. Vancouver arrived at San Francisco on his first visit, November 14, 1792. From there he went to Monterey. He returned eleven months afterward to San Francisco on his second visit. This time he sailed down the coast stopping at Monterey, Santa Barbara, San Buenaventura and San Diego (Hittell, History of California, I, 471). Vancouver remained on the Pacific Coast until 1795, confining his activities chiefly in the vicinity of Nootka Sound (G.Vancouver, Voyages to the North Pacific Ocean, 1790-1795, II-III).



various missions and pueblos in Southern California and was particularly impressed with the condition of affairs at Mission San Buenaventura. He says:

> ...., yet the garden of Buena Ventura far exceeded anything of that description I had before met with in these regions, both in respect of the quality, quantity, and variety of its excellent productions, not only indigenous to the country, but appertaining to the temperate as well as torrid zone; not one species having yet been sown, or planted, that had not flourished, and yielded its fruit in abundance, and of excellent quality. These have principally consisted of apples, pears, plums, figs, oranges, peaches.... All of these were flourishing in the greatest health and perfection though separated from the sea-side only by two or three fields of corn, that were cultivated within a few yards of the surf.[35]

35. Vancouver, Voyages to the North Pacific Ocean, 1790-1795, II, 494.

It is difficult to follow consistently the progress of the missions. Not until November 28, 1791, was an attempt made to systematize the reports. At that time Father Presidenté Lasuén, issued a circular asking the friars to make annual reports in duplicate form beginning with January 1, 1792. This was necessary, in order that a general report could be completed from the local ones and then submitted to the Most Reverend Commissary General and to the College of Mexico. The reports were to include beside baptisms, buildings, and an

account of the plantings and harvestings,[36] and other statistics.

36. Engelhardt, San Diego Mission, 145.

In 1822 the mission system began to experience difficulties which were later to sow the seeds of discord and decay. Up until March, 1822, California had been little interested in the Mexican struggle for independence. The struggle had few champions in Alta California for the white population, composed largely of the clergy and members of the presidio, declared for the king. Little did the Californians hear of the conflict, but they did feel the loss of the San Blas supply ships which had become fewer and fewer since the beginning of the revolution in 1810. It fell to the lot of the friars to provide for the soldiers of the presidio in addition to their own work. In accordance with the conditions of neglect were the pitiable provisions made by the Spanish crown for defense against foreign intrusion. "Governor Sola had been loud in his protestations of loyalty to Spain and expressed unmitigated contempt for the revolutionists; but he could not defend his position."[37] In Mexico, the revolutionists were succeeding and in February, 1821, Agustín de Iturbide, proclaimed independence for Mexico; and in August and September, received the submission of the viceroy.[38] The poor military

37. Coman, Economic Beginnings of the Far West, I, 161.
38. Richman, California Under Spain and Mexico, 1535-1847, 227.

conditions made it utterly impossible for Governor Sola to offer any defense when in March, 1822, a war vessel sailed into Monterey, pulled down the Spanish flag, and ran up the tricolor.[39]

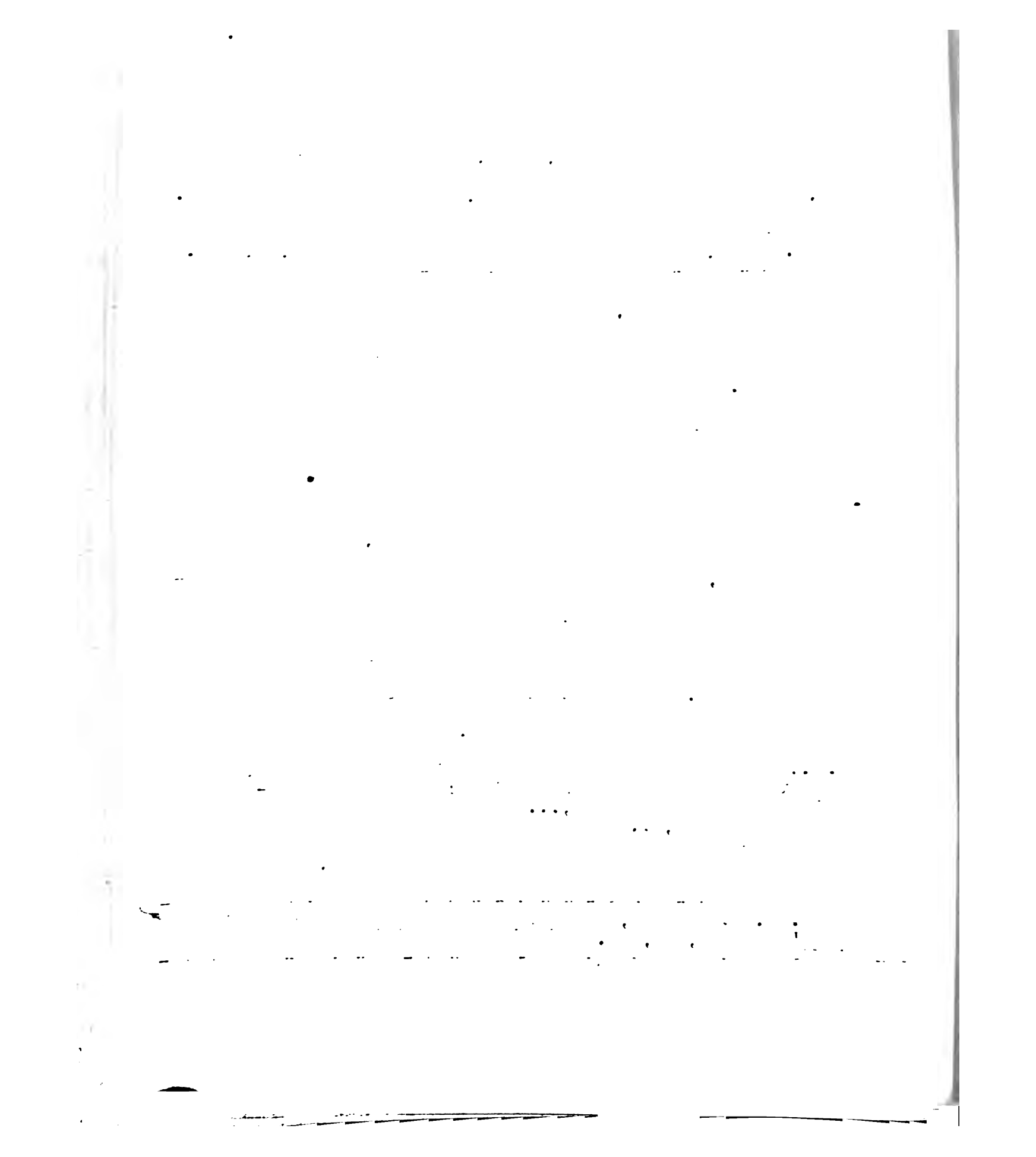
39. Coman, Economic Beginnings of the Far West, I, 161.

From 1825 to 1834, Californians as well as the mission fathers occupied themselves in stock raising, to the exclusion of all agriculture. The hide and tallow trade became so attractive that it was not long before the southern missions demanded a share in this commerce and sought a market for their surplus stock. Every where the potentialities of the soil were neglected and Captain Beechey of the British ship Blossom, truthfully spoke of all California, when he described the condition of the vicinity near San Francisco in 1826. Considering that the country was fine in all respects and especially favorable to all that is essential to man, he thought it a pity that it should be allowed to remain in a state of neglect.

> ....With the exception of the missions and pueblos, the country is almost uninhabited; yet the productive nature of the soil,... and the immense plains of meadow land,... show with how little trouble it might be brought into high cultivation by any farmers who could be induced to settle there.[40]

40. F. W. Beechey, Narrative of a Voyage to the Pacific and Bering's Strait, II, 60.

The country was suffering keenly the lack of an industrious



population and especially from the "jealous policy of the Spanish government."[41] To make matters worse, there was a gen-

41. Beechey, Voyage to the Pacific, II, 66.

eral discontent with the Mexican administration -- salaries of government officials were in arrears as well as the soldiers' allowances. No longer could soldiers retire to a pueblo at the end of a ten year enlistment, to be assigned a portion of land. The privilege was accorded them of pasturing their stock on public lands but no permanent title could be obtained. This measure eventually prevented all soldiery from becoming farmers. Nor were the best type of colonists sent by the Mexican government, for California soon became a penal colony for Mexico, until the law abiding citizens in California protested in 1829. California was not considered as a "possession worth protection" by the many presidents who rose and fell in the City of Mexico. Little by little the seeds of revolution found their way into California in protest against the centralist revolution which was keenly resented in the northern states.[42]

42. Coman, Economic Beginnings of the Far West, I, 169-170.

The crowning blow came to the Franciscans in 1833, when on August 17, the Mexican government passed an act to secularize

the missions.[43] A year or two before this the missions had attained their most flourishing state and only that year had reached the climax in wealth.[44] Attempts to secularize the

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43. The act of secularization as passed by the Federal Congress was in brief composed of the following provisions,

> .... curates were to supersede the padres,... The land and cattle were to be distributed among the neophytes... unoccupied lands, gardens, orchards and so forth were to be worked by the Indians under direction of a major-domo appointed by the governor.... A commissioner was to be sent to each mission to take a detailed inventory of the property,... to distribute among the neophytes their portions of the lands, cattle... Meantime the friars were forbidden to sell any produce or to kill more cattle than were needed for immediate subsistence

(Coman, Economic Beginnings of the Far West, I, 173-175).

44. Inventories taken in the missions in 1834 revealed at Santa Ynez Mission, 987 fruit trees valued at one dollar each; at San Fernando, 1,600 fruit trees valued at one dollar and a half; at San Gebriel, 2,333 fruit trees which were not evaluated (Lelong, Culture of the Citrus in California, 12).

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missions had been made before this act was passed and the Franciscans saw clearly their fate. To some, it seemed an added insult, for in 1829, the decree exiling Spaniards from all Mexican states had removed some of their best members. Again, they were deprived of their salaries, which had been furnished by the royal government and the Pious Fund was turned into the public treasury. Cattle ranges were cut down and Governor Echeandia now proposed a gradual emancipation of the neophytes. The latter meant a serious diminution of labor supply and a

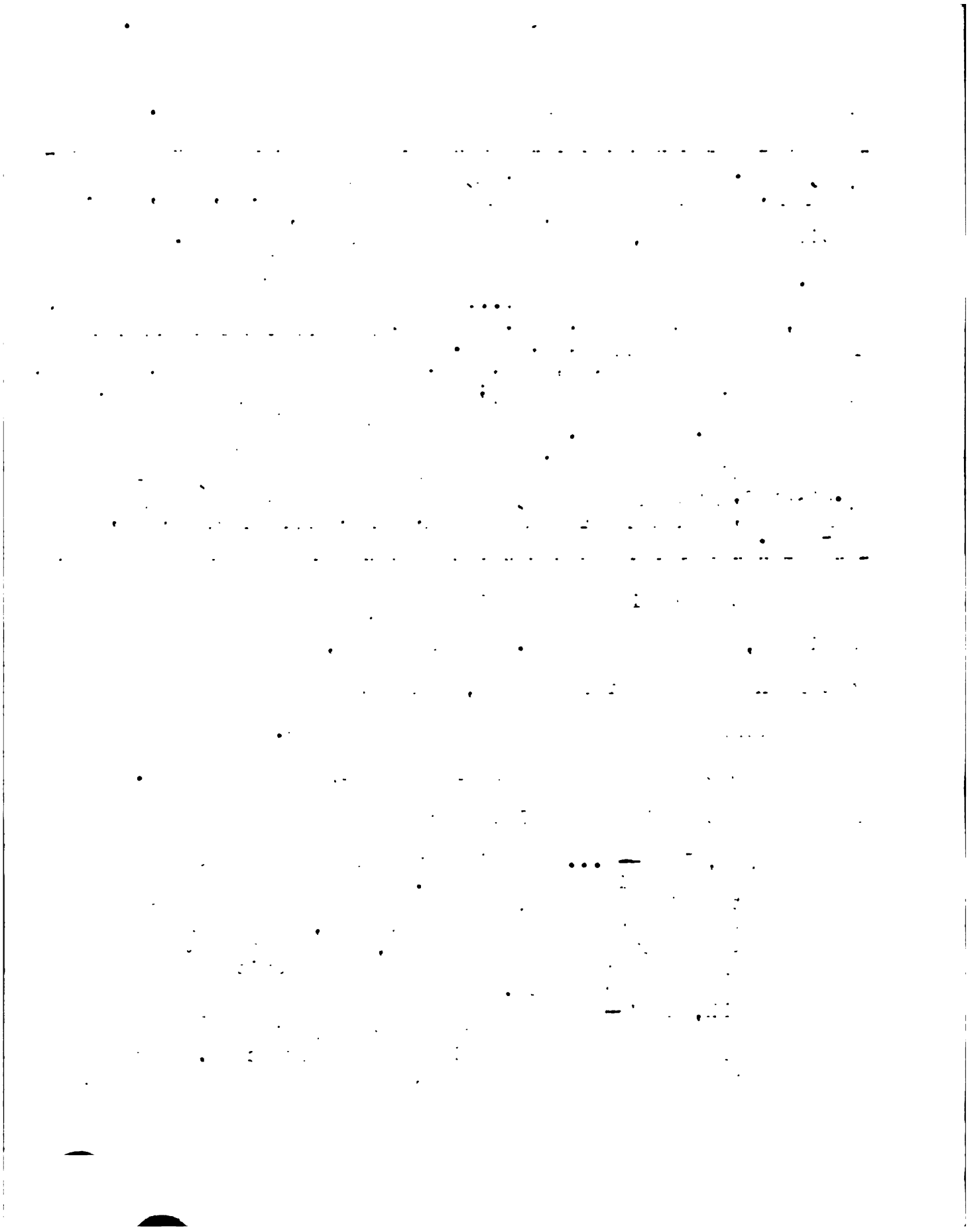
consequent neglect of agriculture and stock raising.[45] Many of

45. Hittell, History of California, II, 207; Coman, Economic Beginnings of the Far West, I, 172, 173; Report of Visiting Committee to examine farms, orchards, vineyards, nurseries, mines, mining etc. contained in Transactions of the California State Agricultural Society During the Year 1858, 296-297.

the missionaries considered the act as an outrage upon themselves, their college, and their neophytes, and in desperation ceased to care for their buildings, gardens and orchards. At most of the missions, the friars resorted to wholesale slaughtering of cattle for hide and tallow in an effort to turn their goods into money.[46]

46. Bancroft, History of California, III, 348.

Duflot de Mofras, attaché of the French embassy at Madrid and later at the City of Mexico, commented on the decay of the missions seen during his visit in 1842. At San Buenaventura, "The gardens and orchards are very fertile, and are filled with bananas, oranges and palms," but he laments that the beautiful plantations are no longer worked due to the absence of the religious. At San Diego, he mentioned the favorability of the temperature to the growing



> and a stroll through them afforded a most delightful contrast from the usually uncultivated landscape we have been travelling through for so long a time. Here were brought together most of the fruits and many of the plants of the temperate and tropical climates.... Oranges, lemons, figs, and olives hung upon the trees.....[48]

48. E. Bryant, What I saw in California, 385, 391.

Daniel Tyler, a member of the battalion of Mormon volunteers, writes of the condition of San Luis Rey mission where the United States troops took up their quarters, October 3, 1847. The mission itself showed greater signs of preservation than the surrounding country and the public square "contained about four acres of ground, with orange and other tropical trees in the center." In the gardens grew "the olive, pepper, orange, fig and ornamental trees."[49]

49. Engelhardt, San Luis Rey Mission, 141. Mr. Bartlett in 1868, also describes the mission, "At San Luis Rey,..., about forty six miles north of San Diego, there is an orange orchard of moderate extent, where the fruit comes to perfection" (W. C. Bartlett, "The Tropical Fruits of California," Overland, I, (1868), 265)

The neglect of the missions was increased further, by the activity of the Mexican governors. Pio Pico, the last of the Mexican governors, helped to consummate the destruction especially during the last two years of Mexican administration, by instituting a series of legislation which eventually culminated in a sale at auction, of immense tracts of mission

lands, disregarding at wholesale, the rights of friars or neophytes.[50]

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50. Coman, Economic Beginnings of the Far West, I, 183. A number of early American settlers with "foresight enough to see that there was profit in fruit, secured some of the mission orchards." Skilful treatment and care soon revived the productiveness of the orchards and in time the "orchardists reaped a golden reward for their labor" (Lelong, Culture of the Citrus in California, 13).

Mission property in Southern California was quickly disposed. Considering the desirability of mission lands (location and soil), it was little wonder that the following disposals were made:

San Gabriel mission, delivered in payment of debts to Hugo P. Reid and William Workman, June 8, 1846.

San Buenaventura mission, delivered to José Ornaz for the sum of $12,000 due him, June 8, 1846.

Santa Barbara mission, sold to Richard S. Den for $7,500, June 10, 1846.

Santa Inés mission, sold to José M. Covarrubias and Joaquin Carrillo for $7,000, June 15, 1846.

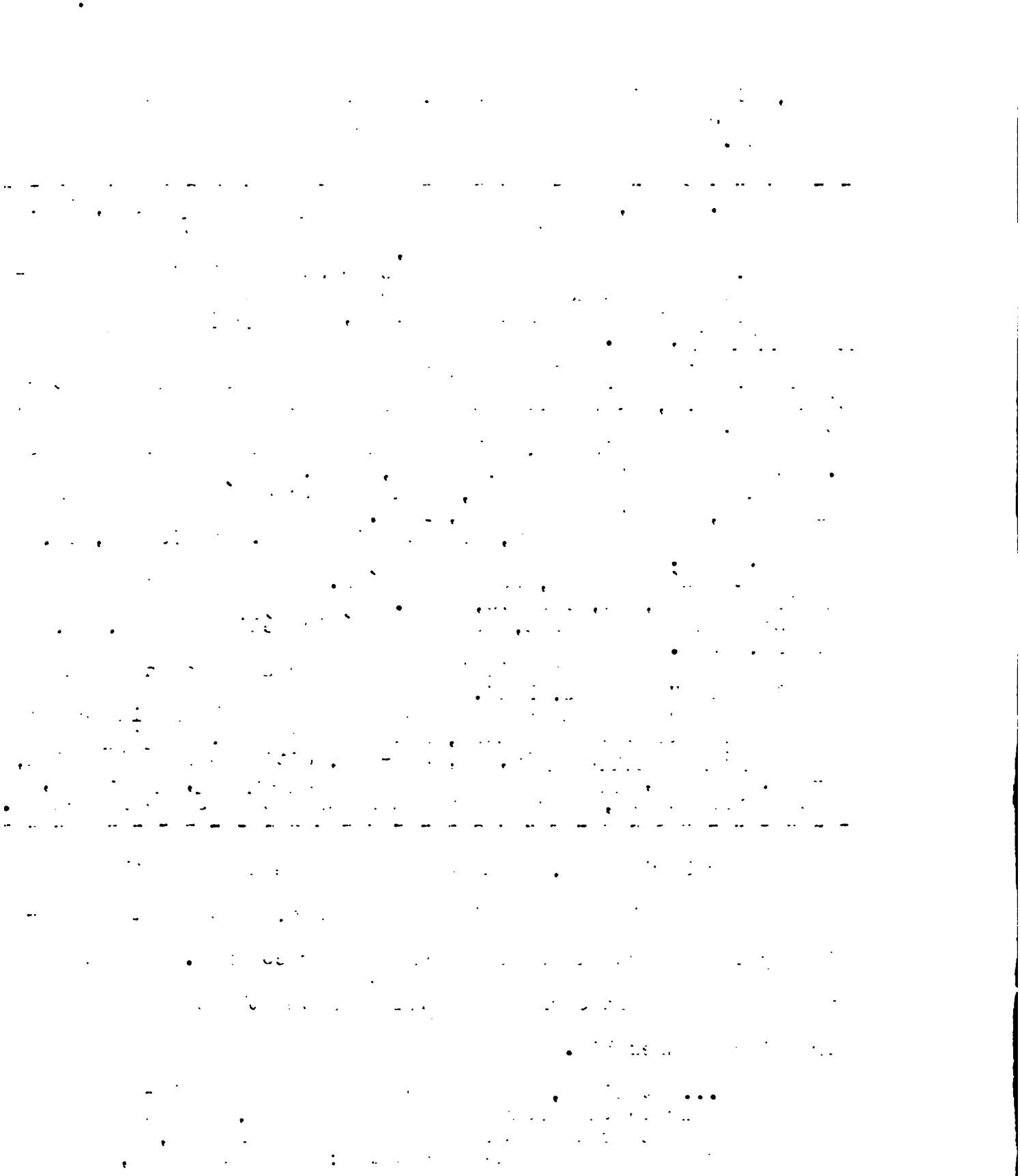
San Fernando mission, sold to Eugénio Célis for $14,000, June 17, 1846.

San Juan Capistrano mission sold to John Foster and James McKinley for 710 pesos, 1846.

San Diego mission delivered to Santiago Argüello in return for services to the government, 1846 (Engelhardt, Missions and Missionaries of California, IV, 507-508, citing Hartman's Brief, 80-102; Richman, California under Spain and Mexico, 1535-1847, accompanying chart, "Secularization in Alta California 1822-46").

Secularization, although at the time it meant the decline of the early fruit industry in the missions, also meant the beginning of a larger industry under secular control. Immense tracts of land were opened and divided among the early settlers for private ownership.

> ... At first, the change was considered disastrous to the prosperity of California, and the wanton destruction of property which followed, seemed to warrant the conclusion; but the result,



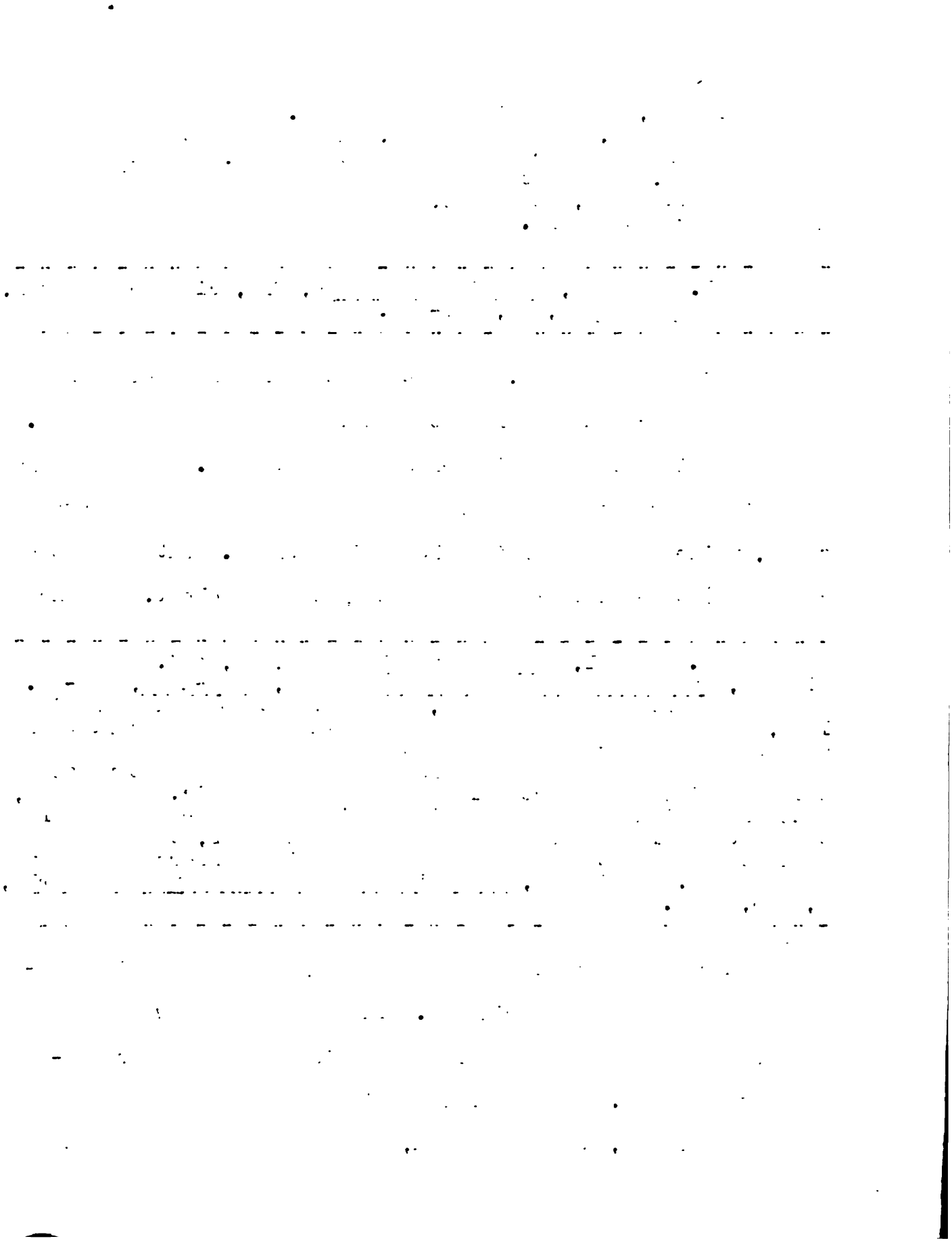
> however, proved quite the contrary. Individual enterprise, which succeeded, has placed the country in a more flourishing condition, and the wealth, instead of being confined to the monastic institutions, as before, has been distributed among the people.[51]

51. Robinson, Life in California, 219, cited by Hittell, History of California, II, 526-527.

Before this time, fruit trees were rarely ever planted by any of the colonists or rancheros from Sonoma to San Diego. Anything which would require effort was not done. Hittell says that "this was the more remarkable as fruit trees would have grown, while the Californians lounged or slept. But they (the colonists) were as improvident as they were indolent."[52] There

52. Hittell, History of California, II, 474. See Richman, California under Spain and Mexico, 1535-1847, 349-50. Sir George Simpson, on his visit to California in 1842, was particularly impressed with the splendid opportunities and commercial advantages which California offered but he lamented that it should "be thrown away on its present possessors" who were likely "to become less and less energetic." He wrote, "the population of California in particular has been drawn from the most indolent variety of an indolent species, being composed of superannuated troopers and retired office holders and their descendants." (Simpson, Narrative of a Journey Round the World, I, 296, 408).

were other obstacles to be encountered by the Californians besides their own characteristics. The existence of wild cattle necessitated a means of secure protection against their promiscuous roaming. Adobe walls required a great deal of labor and Indian labor, hard to obtain, was not especially productive



outside mission walls. At the missions before secularization, the fathers had "thousands of neophytes at their command and to conceive an undertaking was simply to have it done, and quickly.[53] On the other hand, the characteristics of the

53. J. G. Downey, "More About Orange Culture," Overland, XII (1874), 560.

orange itself, did much to discourage the growing of this fruit. In the first place, planting orange trees by seed was the only known method, as the process of budding in California did not develop satisfactorily until the end of the nineteenth century. Consequently the interval between planting and bearing (four to seven years) was a long one, without returns. It was too long for the colonists who expected an immediate food supply. Secondly, the orange did not lend itself to preservation and was therefore regarded as having a limited market.[54] Consequent-

54. T. Evans, "Orange Culture in California," Overland, XII (1874), 237. Mr. Evans also maintained that a superstition or erroneous belief existed among the colonists that the orange tree could not thrive outside the hearing of the silver bells of San Gabriel Mission. In contrast to his theory, see, Downey, "More about Orange Culture," Overland, XII (1874), 560. Bearing out the above statement, Bancroft remarks:

> It is a singular fact that the padres discouraged the growth of oranges and lemons outside of the mission grounds, being apparently as jealous of monopolizing these, as that the whole kingdom of Christ should be subject to their sole administration (Bancroft, California Pastoral 1769-1848, 449.

ly the orange was not considered in a commercial light and was

grown only for home use. With the coming of the Americans, a marked contrast in economic and agricultural activity was displayed.[55]

55. Coman, Economic Beginnings of the Far West, I, 219.

To the early Americans, such as William Wolfskill, Benjamin Wilson and many others, the orange industry owes its initial development in the planting of orchards and the beginning of an enthusiastic interest in the science of horticulture.

To the Franciscans lies the credit of blazing the trail — it was they, who had the courage, time and patience to introduce the orange, cultivate it and prove its adaptability to the climate and soil of Alta California. Out of the mission gardens, the orange industry was soon to spring and it was also in these gardens that "we can discern the promise of colonies such as Pomona, Pasadena, Riverside and Ontario."[56] To the

56. C. H. Shinn, "Early Horticulture in California," Overland, VI (1885), 118.

ingenuity and interest of the early Americans we owe the carrying on of a great work, coming as they did during the critical period of secularization, when interest in the culture of fruits was at its lowest ebb. Out of their attempts, were to develop the beginnings of great orchards and the commercialization of

a valuable food product.

CHAPTER III.

Early American Orchards.

Little interest was manifested by the people of the United States in California until 1800. Before this period, little was known and it was not until Cook's voyage in the Pacific (1776) that Americans saw the possibility of a promising three cornered fur trade with China and the California coast. A rapid succession of events brought about a rich fur trade which was soon supplanted by an important trade in hides and tallow. Through the latter means, the Americans soon became acquainted with the conditions and customs of Spanish California. Accounts of the tremendous resources and possibilities soon filtered back into the United States and the land hungry period of 1833 became one of-enthusiasm for the western coast. Jedediah Smith, James Ohio Pattie, Ewing Young, Joseph R. Walker, William Wolfskill, Benjamin D. Wilson, and many others found their way overland to California, in search of a profitable trapping ground. Their efforts were not futile, for they succeeded in opening up trails, long sought by explorers and other trappers. More important were their accounts which stimulated a wave of migration between 1841 and 1846. Fear of the English over the Texas question, the war with Mexico and the slave con-

troversy, all hastened the United States in the acquisition of California.[1]

1. In the treaty of Guadalupe Hidalgo (February 2, 1848), New Mexico and California were ceded to the United States in consideration of an indemnity of $15,000,000 (Bancroft, History of California, V, 590, 591).

The wealth of this state was better known after the discovery of gold by James W. Marshall, January 1848. The gold rush quickly populated California and held the undivided interest in mining for several years to follow. It was not until the diggings became poor that attention was turned to agriculture and the mass of the population shifted toward the south. In the meantime there was not more than a handful of enterprising men courageously engaging in the culture of oranges. Don Louis Vignes, William Wolfskill, Don Manuel Requena, and Benjamin Wilson and a number of pioneers, blazed the trail. In time their attempts were well rewarded in a material way and the hope of commercializing the orange industry assumed a promising aspect.

The first orange orchard of any note, outside of the missions, was planted by Jean Louis Vignes at Los Angeles in 1834.[2] Don Louis left his home in France and in 1831 reached

2. Lelong, Culture of the Citrus in California, 17.

Monterey. From there he went to San Pedro and later to Los

Angeles, where he established himself permanently. Immediately his attention was turned to agriculture and especially to the growing of the grape.[3] In 1834, he successfully transplanted thirty four orange trees from San Gabriel to his orchards on Aliso Street.[4]

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3. Hittell, History of California, III, 179. William Heath Davis states that Vignes came on the bark Louisa in company with him in 1831. He also was known as Don Louis del Aliso, the result of his great love for a sycamore (aliso) tree, which grew in front of his gate (Davis, Sixty Years in California 1831-1889, 169, 172).

4. The same year Don Manuel Requena planted a small orchard which did not achieve the size or importance of the other orchards planted in the same period (Downey, "More About Orange Culture," Overland, XII (1874), 560).

Mr. Spalding states that thirty five trees were planted and that this was the second planting (W. A. Spalding, "First Chapters in History of California Citrus Culture," The California Citrograph, VII (1922), 66).

The introduction of the orange, according to Mr. Evans, seems to have been an accident. Although the story he tells is a feasible one, I have not been able to find definite proof of its veracity. He says:

> It is currently reported that by the purest accident it was discovered that the tree would grow and bear fruit in the Los Angeles valley....separated from the San Gabriel valley by a very narrow ridge of low hills. Tradition has it, that this accident was the carting of the stump of an orange tree from the old mission orchard to Los Angeles, where it sprouted and bore fruit, to the astonishment of the natives (Evans, "Orange Culture in California," Overland, XII (1874), 236).

The tiny orchard was enclosed by some iron fencing which he had purchased from Father Sanchez at the mission. The grove was covered with a wire netting, "thus making an aviary in which he kept a flock of quail." Before long it was necessary to plant

outside the enclosure.[5] A few years later, he was known to have

5. Spalding, "First Chapters in History of California Citrus Culture," The California Citrograph, VII (1922), 66.

the largest orchard and vineyard (making the best wine) in the state. People knew him for his hospitality as well as for his enterprise in agriculture and there were many writers of the time who mention his generosity and his great interest in the cultivation of the orange and the vine. This interest was always paramount and to those who visited him in his home, it was apparent. Don Louis succeeded in inducing many of his countrymen to this country, who took up agriculture in a far more intelligent manner than had ever existed before in Alta California. "He was a great believer in the future of the country and particularly in the future of the vine and orange industries."[6] Although his orchard was not planted with the view of profit, his example demonstrated the possibility of commercializing this fruit. It is said that not an orange was sold from this pioneer orchard until long after the advent of the Americans.[7]

6. Hittell, History of California, III, 179; Davis, Sixty Years in California, 172.

7. Downey, "More About Orange Culture," Overland, XII (1874), 560.

Don Louis died in 1862 at a ripe old age, "greatly respected and deserving of respect"(Hittell, History of California, III, 180). His orchard later came in the possession of the Sansevaine Brothers. Fruits from this orchard were exhibited, September 2, 1855, in Los Angeles (Hayes Collection, Southern California, Agriculture, I, 338, citing the Los Angeles Star, September 2, 1855). Members of the Vignes family still reside in Southern California and at present live near the Dominquez ranch

The first American to plant an orange orchard was William Wolfskill. He was a Kentuckian by birth, and at the age of thirty two, with eight years of experience as a trapper in territories about Santa Fé, set out with a company in New Mexico to trap in the great valleys of California. The party arrived in Los Angeles early in February, 1831. Here they broke up, some remaining in California to become prominent pioneers, while the others returned to Mexico.[8] Wolfskill was characterized by his

8. Bancroft, History of California, III, 386.

enterprise and in a short time became classed in the same category as Vignes. "He became equally famous as the promoter, if not the starter, of one of the most important industries of the country," devoting the majority of his time to the growing of oranges and other orchard fruits, while Vignes on the other hand gave particular attention to the vine.[9]

9. Hittell, History of California, III, 180. See J. J. Warner, Reminiscence of Early California, 39, 41.

In November 1838, Mr. Wolfskill purchased the property in Los Angeles destined to become the nucleus of his famous orchard. Three years later, in 1841, he secured orange trees from San Gabriel Mission and planted a two acre orchard and without a doubt this was the first orange orchard planted in the

state with a view to profit.[10]

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10. The orchard was planted on the spot now occupied by the Arcade passenger station of the Southern Pacific railroad (Coit, Citrus Fruits, 2, 3). See C. D. Willard, History of Los Angeles, 165; Spalding, "Early Chapters in History of California Citrus Culture," The California Citrograph, VII (1922), 66.

For a period of time, his undertaking did not promise success and several times he thought of tearing out the orange trees and replacing them with vines. However his efforts were amply repaid and moreover his successful attempt proved to other orchardists that Southern California possessed a climate favorable in many ways to the growing of fruit and in this case, oranges in particular.[11]

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11. J. M. Guinn, Historical and Biographical Record of Southern California, 1000; Coit, Citrus Fruits, 2, 3; A. C. Fish, "The Profits of Orange Culture," Golden Era, XXXIX (1890), 115. In the northern part of the state, John Wolfskill, a brother, planted a few vines on Putah Creek in 1842, but did not plant fruit trees until about ten years later (Wickson, "California Mission Fruits," Overland, XI (1888), 505).

A letter from General John Bidwell addressed to Mr. Wickson, Chico, November 16, 1887, contains an account of the early orchards in 1845:

> Your letter of the fifteenth inst., received. The date of my arrival in California was 1841. At that date all the fruit, with few exceptions, was grown at the missions, or at points that had been occupied and improved by the missions....
> ....In 1845,... Los Angeles had orchards also,

> mostly of oranges. The largest orange orchards at that time (February, 1845) were those of Wolfskill, Carpenter, and Louis Vigne (known as "Don Aliso," from the large sycamore tree standing by his house).[12]

12. About the last days of February or the first of March, Bidwell also visited the mission at San Gabriel, where he found that the orange trees had either been injured or killed by the frost. An attempt was made, according to General Bidwell, to transplant a few orange shoots from the mission to San Fernando to Sutter's Fort by Captain Sutter himself. Although the shoots were carefully "watered with buckets," they did not live (Wickson, "California Mission Fruits," Overland, XI (1888), 504).

Bryant in 1847 also speaks of the enterprise of Mr. Wolfskill ("an American gentleman residing in Los Angeles") and comments, "It was a delightful recreation to stroll through it and among the tropical fruit trees, bordering the walk."[13] Be-

13. Bryant, What I Saw in California, 412.

tween 1856 and 1875, two thousand more trees were planted, a little southwest of the Arcade depot, forming then the largest orchard of its kind in the state.[14] A few years before (1853)

14. Guinn, Historical and Biographical Record of Southern California, 1000; Hittell, History of California, III, 875.

Matthew Keller and Doctor Halsey obtained seeds from Central America and Hawaii, which they planted in large nurseries across the street from Wolfskill's orchard. Doctor Halsey, a little later, went east, leaving his nursery in the care of Judge I.

S. K. Ogier, who sold it for a mere song to Wolfskill.[15] In this manner he was able to increase the size of his orchard which he had found had grown extremely profitable. Not only did he add to the size of his own orchard, but his example served to popularize the planting of orange trees, both in courtyards and orchards. By the year 1857 Mr. Wolfskill was making more than one hundred dollars apiece from his bearing trees.[16]

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15. Downey, "More About Orange Culture," Overland, XII (1874), 560-561; Coit, Citrus Fruits, 3; Lelong, Culture of the Citrus in California, 17.

16. J.S.Hittell, Resources of California (1863), 192, 193.

An account in the Los Angeles Star, December 10, 1858, states that:

> There are 30 orange trees in bearing, most of which are about 19 years old from the seed— 2,050 in orchard, but not yet in fruit and 4,000 in nursery.... Of the orange trees in fruit, some have produced as many as 1,600 (oranges) in a season, and one of the trees not less than 2,000, which at 6-1/4 cents each, makes the handsome little sum of $125 as the product of one tree. Within the past year the orange trees have been attacked by an insect, that is proving very destructive to the trees.[17]

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17. Copies of the Star for the year 1858, do not exist in the University Library, therefore I have had to resort to the citing of Hayes Collection, Southern California, Agriculture, I, 267.

In 1857, an unknown insect attacked the orange trees in the vicinity of Los Angeles and for the next six years threatened the destruction of an infant orange industry (J. S. Hittell, Resources of California, 192, 193).

The orchard soon attracted attention outside its immediate locality. The visiting committee of the State Agricultural Society, in 1858, reported that the orchard was planted in a "style of exact neatness seldom equalled. It presents a sight which, of its kind, is quite superior to anything in the State."[18]

18. Transactions of the California State Agricultural Society During the Year 1858, 287.
The Daily Alta California, November 12, 1860, mentions the activities of Wolfskill, "He has the finest groves of orange and walnut trees in California, and besides these, has nearly all kinds of fruits that grow in the vicinity of Los Angeles."

In 1863, Wolfskill had in his orchard more than two thirds of the total number of orange trees (2500) set out in orchard in the state, representing in part most of the oldest trees.[19] By

19. J. S. Hittell, Resources of California (1863), 191-192. That the Wolfskill orchard proved to be one of the show sights in Los Angeles was inevitable. Surely the majority of strangers or travellers coming to Los Angeles were allowed to see this famous sight. Miss Josephine Clifford, March 1872, writes, "A walk through the streets reveal the fact that Los Angeles is quite a city. The orangeries are numerous, and the most extensive, containing the largest trees, is the Wolfskill orchard, one of the oldest in the country (J. Clifford, "Tropical California," Overland, VIII (1872), 212).

1875, the number of trees in his orchard had increased to about two thousand with an average production of about fifteen hundred oranges.[20] Two years later, the oranges from the Wolfskill

20. Hittell, History of California, III, 875.

orchard were the first to make up a full car to be sent to eastern markets.[21]

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21. The fruit was sent to St. Louis, arriving in good condition after three months in transit (Coit, Citrus Fruits, 3).

The Wolfskill orchard, without a doubt, played a most important part in the genesis of the orange industry. Not only did it prove an incentive to other orchardists, but it proved to be a successful commercial undertaking.[22] Mr. Spalding, who saw the orchard in 1874, says, "This success which had been attained as a commercial venture probably had more to do with stimulating orange planting in Southern California from that time forward than any other influence."[23]

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22. William Wolfskill died in 1866 and the orchard and other property went to his children, who continued his work (Hittell, History of California, III, 180).

23. Spalding, "Early Chapters in History of California Citrus Culture," The California Citrograph, VII (1922), 66.

An excellent account of the life and work of William Wolfskill is found in an article "The Story of an Old Pioneer," contained in The Wilmington Journal, Wilmington, Los Angeles County, October 20, 1866. The account is a biographical sketch written shortly after his death.

Rivalling Mr. Wolfskill in orange culture was Benjamin D. Wilson, an early settler in the San Gabriel valley. He was born in Tennessee and had spent some time in trapping beaver

before coming to California in 1841.[24] According to J. J. Warner, he located first in Los Angeles where he engaged in mercantile business. In 1854 he purchased the land in San Gabriel where he resided until his death.[25] This property he designated as "Lake Vineyard" and was reputed to have been a portion of the mission lands belonging to San Gabriel Mission which had been delivered to Mr. Hugo Reid and William Workman in payment of debts, June 8, 1846. Mr. Hugo Reid, of Scotch descent, came to California in 1834 and later married an Indian woman from the mission.[26] He

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24. Michael C. White, who came in the same party with Wilson, Wm. Workman, John Roland and others, tells of their experiences overland to Los Angeles, where they separated. Accounts of Mr. Wilson's early activities can also be found in the same manuscript (Michael C. White, California, All the Way Back to 1828, 26, 30-40. The account was dictated to Thomas Savage for the Bancroft Library in 1877).

25. J. J. Warner, Reminiscence of Early California, note inserted to accompany page 57.

26. Mr. White speaks of "working in September 1846 for Mr. Hugo Reid building a house at the place where Mr. B.D.Wilson now lives" (White, California, All the Way Back to 1828, 26); Willard, History of Los Angeles, 166. For description of mission San Gabriel, see thesis, 35-36. Spalding said that Father Bot, in charge of the mission in the seventies and eighties estimated the "time of the planting of oranges in 1804... How many trees were included in the original orchard is also uncertain... but the grove grew with successive plantings until it covered about four acres— say 400 trees" (Spalding, "First Chapters in History of California Citrus Culture," The California Citrograph, VII (1922), 66). For transfer of San Gabriel Mission land see thesis, 46.

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was indeed fortunate to profit at the time of the unconstitutional sale of mission lands, for the property he received was fertile

and had a number of fruit trees growing upon it. Soon after the sale, Rev. Walter Colton saw the mission, which he described. "Its lands cover one of the most charming intervals in California; the soil and climate are both well adapted to fruit. In its gardens bloomed oranges, citrons, limes,....."[27] The portion of the land belonging to Reid, we presume contained some of the original trees which were later destined to become the nucleus for a larger orchard. After Mr. Reid's death, his widow found it necessary to sell this valuable land and the new owner in 1854 became B. D. Wilson.[28]

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27. W. Colton, Three Years in California, 45.
28. Downey in his article, "More About Orange Culture," Overland, XII (1874), 561, states that Mr. Wilson purchased the land in 1852 while J. J. Warner says 1854. For other purchases made by Wilson, see B. Hayes, Notes, excerpt from Reminiscences of B. D. Wilson, 30.

With careful attention and work, Mr. Wilson succeeded in planting more trees and caring for the original trees at the same time and to such an extent that it was possible to supply his friends. Before long, the friends outside of his immediate locality also were enjoying the fruits of his labor. The Daily Alta California (San Francisco) in March, 1855, acknowledged the receiving or oranges from his orchard. The article read: "We received by the America on Sunday, a package of oranges from the vineyard of Benjamin D. Wilson, Esq., at Los Angeles, and a

finer sample of that delicious fruit never passed our lips."[29] The Visiting Committee of the Agricultural State Society visited the orchard at Lake Vineyard in 1858. The Committee was impressed, for at that time he had an orange nursery of 10,000 trees and "finer trees" they had never seen.[30] From this orchard, he was receiving an annual net profit of two thousand dollars an acre in 1890.[31] In 1875, he became a close competitor of Wolfskill, who had two thousand trees, while he had one thousand, six hundred fifty trees.[32] Resembling his competitor in enterprise, he

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29. Daily Alta California, San Francisco, March 13, 1885.
30. Transactions of the California State Agricultural Society During the Year 1858, 293-294.
31. Fish, "The Profits of Orange Culture," Golden Era, XXXIX (1890), 115.
32. Hittell, History of California, III, 875.

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likewise became an example to other orchardists. The stimulus from his work was not felt in San Gabriel valley alone, but in other parts of the state.

In 1857 a few trees were planted at old San Bernardino by L. Van Leuven from seed grown by him. He, also the same year, planted forty-five trees which had been obtained from Los Angeles. In 1865, about two hundred trees were planted by Myron H. Crafts at Crafton. The first seeds planted at Riverside were in 1870, and the first trees in orchard grown from these seeds, in 1872 and 1873. As a whole little progress outside of the above plant-

ings, was made between the period of 1857 to 1862. The greatest number of trees at the end of the period were found in the Wolfskill orchard, which at that time had two thirds of the entire number of orange trees grown in the state.

The orange area, after the decade 1860-1870, began to widen for in the last year of this decade, Frank A. Kimball planted orange and lemon trees at National City in San Diego County. These were probably the only living trees besides two old orange trees growing in El Cajon Valley.[33] Around Los Angeles the orchards were increasing with a surprising rapidity. Mr. Spalding remarks of the orchards in 1874, "There were, however, numerous other groves in profitable bearing (besides Wolfskill)." The groves of L. J. Rose at "Sunny Slope," and of A. B. Chapman and F. P. F. Temple at Santa Anita (property of the Baldwin heirs at present) were located in the San Gabriel valley, while near the foothills were the groves of L. H. Titus, Colonel E. J. Kewen of El Molina and General Stoneman. Mention is made also of the grove of Don Benito Wilson (B. D. Wilson) and it is interesting to know that this important orange grove is now a part of the Huntington estate.[34]

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33. Lelong, Culture of the Citrus in California, 18.
34. Spalding, "Early Chapters in History of California Citrus Culture," The California Citrograph, VII (1922), 66.

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Undoubtedly the cause of the non-progressive period between

1858 to 1863, can be attributed to the introduction of an insect, which for a time seriously threatened the entire destruction of the orange trees. Orange culture among the early orchardists, had not developed into the scientific industry which it is today and therefore the orchardists, ignorant of the many problems befronting one in the raising of oranges, were at loss to cope with this insect. Every possible method known at the time was tried but without any material result. The first note of the destruction caused by this pest is contained in the report of the Visiting Committee (1858) in reference to the orchard of Don Manuel Requena. "He has seventy-two fine orange trees, which have been in bearing two years, but are destitute of fruit this year on account of an insect which is doing them great injury."[35]

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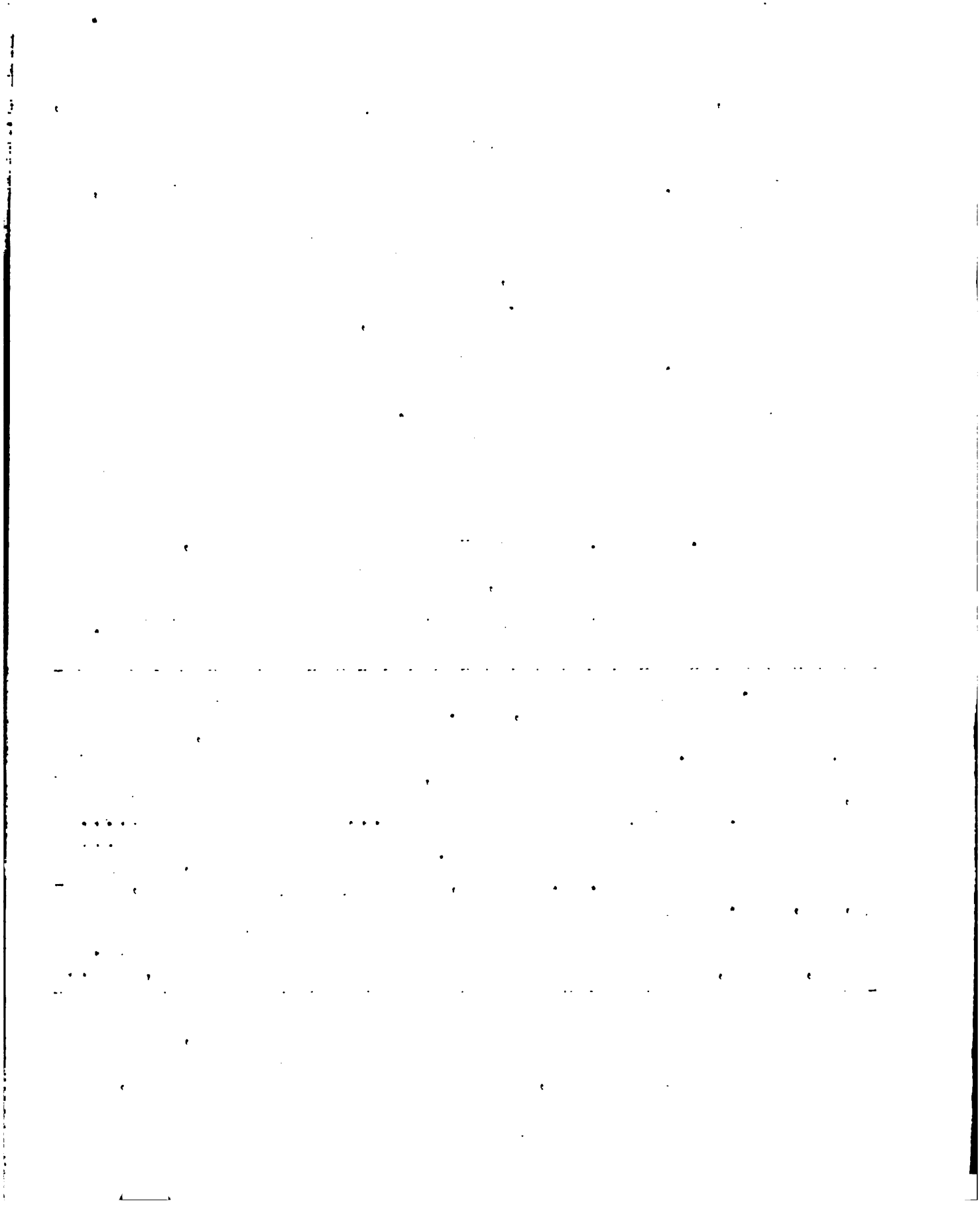
35. Transactions of the California State Agricultural Society During the Year 1858, 286.

In reference to Manuel Requena see thesis, chapter III, footnote 4. Although his orchard did not attain the prominence which the orchards of Vignes, Wolfskill and Wilson received, it is of interest to note the description of his character by Thomas O. Larkin, "Trader and farmer... born in Yucatan..... a man of property and much general information and influence... not anxious to be in public life unless strongly urged, not anxious for salary" (T. O. Larkin, Official Correspondence, 1844-49, II, 102.

Don Manuel Requena according to his own testimony came in 1834 and was alcalde of Los Angeles in 1836 and in 1844 (B. Hayes, Notes, containing "Testimony of Don Manuel Requena," 29.).

The Los Angeles Star comments on the condition, which we know must have been severe, "The disease in the orange tree, we



are sorry to hear, has not been checked.... while some orchards have escaped visitation others are suffering severely from the disease." Not only did the orchardists have to contend with this disease, but were forced to suffer the effects of severe frosts (1859) which killed many of the young trees.[36] The destruction

36. Hayes Collection, Southern California, Agriculture, I, 275, citing the Los Angeles Star, January 22, 1859.

of trees became less in 1862. Governor Downey, writing his reminiscences in 1875, says, "From 1857 to 1862 orange growing was greatly checked by the insects, which caused an almost total failure of the fruit. But in 1862, this pest abated, and there was a good crop."[37] Although the destruction of the trees had almost reached the point of ruin in many orchards, hope was held out that once a bane was found, the cultivation of the orange would quickly assume an important place in the horticulture of the southern part of the state.[38]

37. Spalding, "Early Chapters in the History of California Citrus Culture," The California Citrograph, VII (1922), 94, citing Downey. Spalding classifies this pest as the black scale (Ibid., VII, 94).

38. J. S. Hittell, Resources of California (1863), 191-193; Daily Alta California, San Francisco, November 8, 1860.

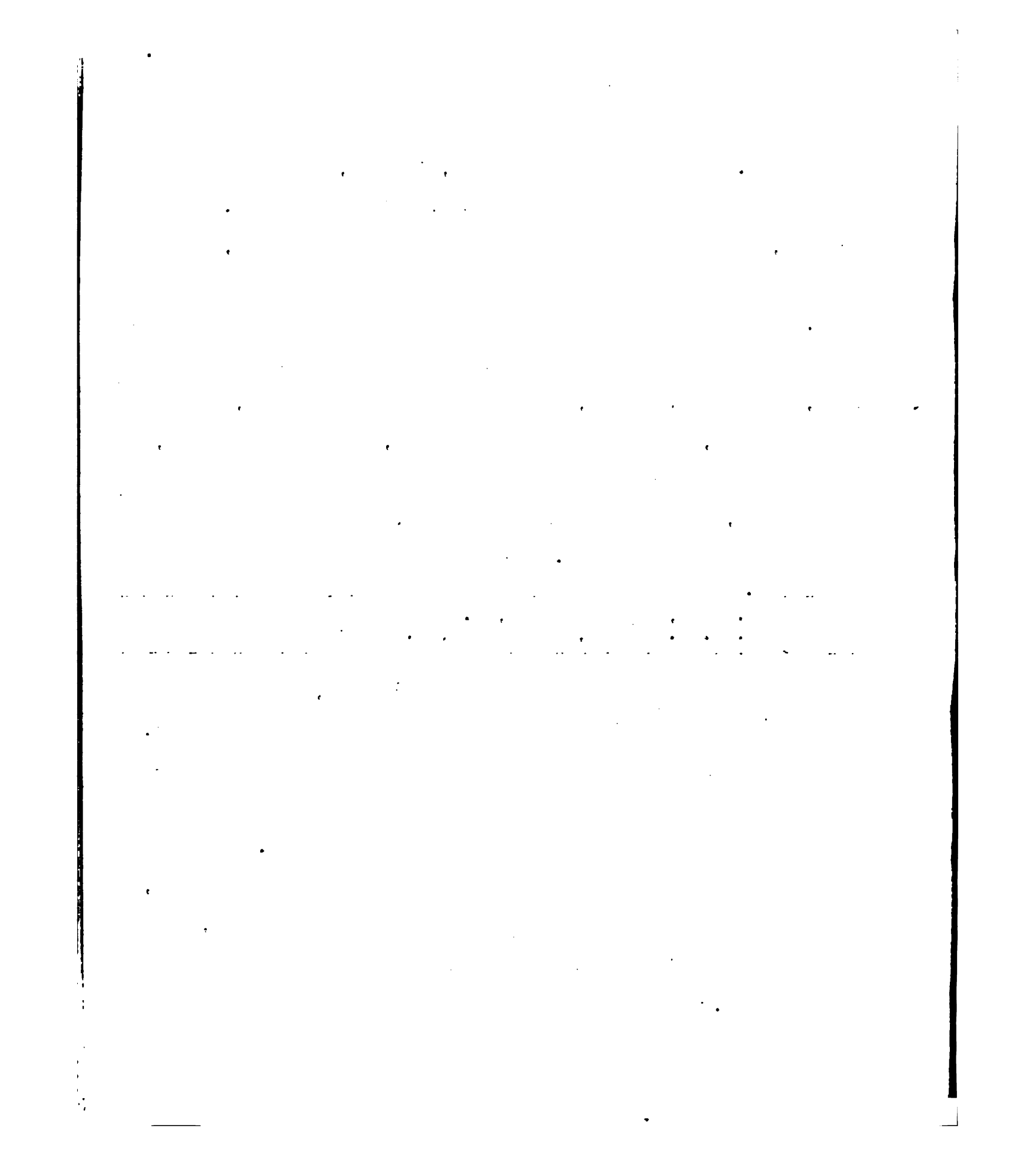
Again in 1868 the trees were threatened, this time by the cottony cushion scale, which was introduced with the importation of nursery stock. The scale worked its greatest damage in the

vicinity of Los Angeles and again the trees were on the verge of extinction. Just twenty years later, in 1888, a successful attempt to eradicate the scale was introduced. At that time Mr. Albert Koebele, of the United States Department of Agriculture, was sent to Australia to study the cottony cushion scale in its native land. As a result a small predaceous ladybird beetle was introduced[39] and had so successfully exterminated the scale that in 1871, Marshall P. Wilder, speaking of Los Angeles said, "As I have remarked, fruits and fruit trees are, in a great measure, free from insects and diseases in California; however the few which exist, it is reasonable to suppose, will increase with the extension of fruit culture."[40] Not only were the early American

39. Coit, Citrus Fruits, 7.
40. M. P. Wilder, California, 9.

orchards endangered by these two specific pests, but there were other scales and pests which threatened them from time to time.

The fruit from these early orchards as a rule was consumed in the neighborhood of its production or hauled to Los Angeles and then shipped to northern points by water. The production was not increased any more than to meet this demand, in fact there was not an incentive to increase production, for railroad connections were still lacking and eastern markets were not possible. Although heavy shipments to San Francisco were not



common, yet there was a profitable trade and prices at first were high. In 1851 oranges retailed at twenty five cents apiece.[41]

41. Hayes Collection, Southern California, Agriculture, I, 190, citing the Los Angeles Star, October 11, 1851.

From then on prices dropped as communications and transportation became better. In 1863, the Evening Bulletin of San Francisco states:

> ... The Los Angeles orange is of fair size, beautiful color, of a rich flavor and is thought by some to be superior to any imported oranges. We are informed that while foreign oranges sell at $4 the hundred, California oranges bring $7 the hundred.[42]

42. Evening Bulletin, San Francisco, January 19, 1863, Notice of fruit arrivals demonstrating the activity of Southern California in orange culture are found also in the same paper for January 17, 1863; March 7, 1863.

Although the orange market had not expanded in area farther than San Francisco by 1863, there were men in California who predicted big things from these small orchards. Larkin in his description of California (1846), speaks of the presence of limes, oranges and other fruits and then goes on to say that, "In a few years, the settler may find purchasers among the emigrants throughout the country; in time he will find a market in the Sandwich Islands, North West Coast, San Blas, Mazatlan and elsewhere."[43]

43. Larkin, Official Correspondence, 1844-49, II, 96.

The vision was big and the period of the small orchards marked the foundation of commercializing the fruit and the attempt to push into new market areas.

The influence of the early orchards was broadcast in many directions. Through the problems arising out of them, the orchardists of the state met together in 1854 and organized the State Agricultural Society. This society stimulated and encouraged the industry in plant propagation and distribution by sending out visiting committees to the nursery establishments and orchards. Reports were then to be made upon their condition and content in order that state premiums might be awarded the most worthy of them. Another worthy institution, also grew out of the needs of the early orchards and especially the orchardists themselves, who had been the victims of non-professional nurserymen and tree peddlers. In order to protect the public and their own industry, the nurserymen formed an association at a convention held in San Francisco, November 1858. Some of the pioneer nurserymen deserve an equal amount of recognition as the pioneer orchardists, for they were instrumental in a more direct way in the distribution of trees. Men like John Bidwell, of Chico, T. J. White, S. W. Halsee, Matthew Keller, O. W. Childs, William Stockton, W. B. Osborne, all of Los Angeles, represent the period of 1850-1860. Thomas a Garey best represents the next

decade in Southern California.[44] Mr. Garey had an extensive nursery in Los Angeles. Between 1868-1875, he imported many varieties, some from Australia, Southern Europe, Florida and from the nurseries of Ellwanger and Barry of Rochester, New York, and from Sir Thomas Rivers of Sanbridgeworth, England.[45]

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44. Wickson, California Nurserymen and the Plant Industry 1850-1910, 19, 21-22, 26-27.
45. Coit, Citrus Fruits, 4.

There were a number of factors, upon which I have not touched in this chapter, which either led to the development of the early orchards or were the direct result of these orchards. The rush from the mines into other pursuits, helped to bring about a spurt in the growth of agriculture. Colton's prediction in 1850 that the "emigrants, when the phrensy of the mines had passed, will be strongly attracted to Los Angeles"[46] proved to be true. It was little wonder that many of the miners found orange culture more profitable than mining, for they were assured in the former case of building fortunes "more securely and scarcely less rapidly."[47] Every where the planting of orange

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46. Colton, Three Years in California, 354.
47. F. Tuthill, The History of California, 352, 612; A. J. Cook, California Citrus Culture, 7.

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trees increased until Los Angeles itself became chiefly noted for the "production of wine and oranges." Charles Nordhoff said

that the orange groves almost surrounded the town.[48]

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48. C. Nordhoff, California for Health, Pleasure, and Residence for Travellers and Settlers, 136-137. See T. S. Kenderdine, A California Tramp, 200; Daily Alta California, San Francisco, October 13, 1860.

The passing of large estates contributed directly to the development of the early orchards, for it became possible for Americans to buy up land which in some measure had been cultivated. Where the flocks and herds of the San Gabriel Mission once roamed, there sprung up some of the orchards named, such as the Wilson estate, Sunny Slope, Santa Anita and many others. Wherever the emigrants took possession of the land there was a revival of industry and thrift and more important to us, orange orchards were planted.[49] On the other hand, the early orchards or groves which were planted, helped to break down the barrier of having a miscellaneous assortment of fruit trees and the tendency soon began toward specialization, an essential to the success of any industry.[50]

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49. J. C. Carr, "The Crown of the Valley," The Californian, V (1882), 198; C. S. Capron, History of California from its Discovery to the Present Time, 112.

50. Wickson, California Fruits, 73.

Growing out of the demonstration by the Spanish Californians of the desirability of climate and soil for the growth of fruit

trees and especially oranges,[51] the early orchards developed. Beginning in the humblest manner and confined to small orchards (generally two acres), the culture of oranges developed rapidly and in the course of a few years became a firm foundation for an intensive industry. As early as 1870, small groves had been planted all along the foothills from San Diego to Butte County.[52]

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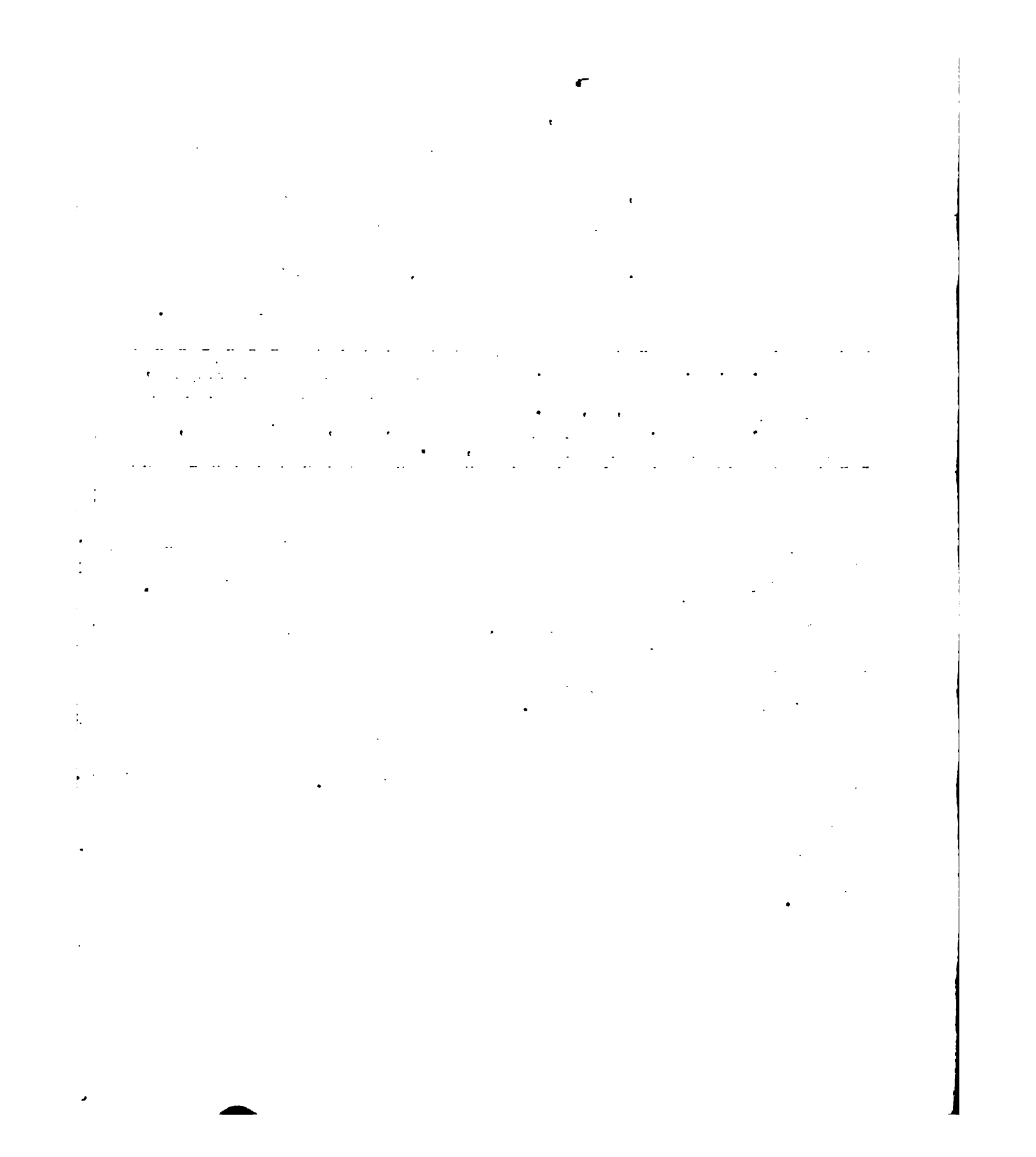
51. R. H. Bonnycastle, Spanish America or a Description, Historical and Geographical Account of the Dominions of Spain in the Western Hemisphere, I, 83.

52. Hittell, History of California, III, 875; Lelong, Culture of the Citrus in California, 19.

Little did the pioneer orchardists realize the merit of the foundation which they laid for an industry destined to become an integral part in the development of Southern California. Coming as fur trappers and miners, they successfully turned their attention from the exploitation of natural resources to the development of agriculture. It is true that their efforts were the means of carrying the southern part of the state forward in the march of progress and improvement. Their long experience proved the adaptability of the orange to this region and stimulated the hope for future commercialization and eastern markets.



CHAPTER IV.

Modern Development. Railroads and Colonization.

The development of the orange industry is best characterised by a consideration of the innumerable interest factors, which have contributed in some manner or form to a rapid growth in the industry itself. In general, these factors have come about through a natural process of evolution and are so closely associated and dependent upon each other, that it is difficult to attribute the development of the industry to any particular one of them. The same is true in the evaluation of the benefits derived by the State and by the industry.

Following the period of early orchards, a sharp reaction settled upon California. The gold rush had brought about a large migration but this new period of activity was destined to excel the rush. In the later sixties stage lines multiplied and in the next decade railroads began. Colonization was stimulated, land rose in price and value, and the state was quickly populated. The tendency was decidedly in favor of the south. Before long, the boom gripped all of Southern California and the migration which it and the low railroad rates brought about, was inconceivable. Communication and transportation made orange culture possible. Eastern markets were opened and new varieties

of oranges were introduced, lending themselves to preservation and shipping. The introduction of the Washington navel brought about new methods in propagation and marketing while on the industrial side, it increased monetary returns. Orchards were transformed almost over night from the inferior seedlings to the more profitable Washington navel orange.

Synchronized with this activity was the movement among landowners to subdivide their great holdings, as well as to increase the amount of money formerly invested in orange culture. The tendency was toward intensification. New banks were established and a general prosperity fell over the land, inviting and attracting other colonists to the coast. From 1870 to 1880, Southern California was pervaded by a mania for planting orchards and the result in the next decade, was to lead to new ideas in big scale productions and enterprises in citrus culture. Scientific methods in marketing, treating scale and other pests evolved, while other problems were now in the beginning stages of solution. Thus the factors arose, in some cases simultaneously, but at the same time contributing to a common end, which was the development of the orange industry.

There are four factors, which tended to develop interest in the growth of the industry to such an extent that a separate consideration of them is deemed worthy. They are, first, the construction of railroads; second, the successful completion of

colonization schemes; third, the introduction of the Washington navel orange, and fourth, the development of cooperative marketing.

As early as 1840, the idea of a railroad across the continent occurred to many persons, but it was not until 1849 that a decided stand was taken. At the commercial convention held in St. Louis, Senator Thomas Benton proposed the building of a railroad supported either by the states or individuals. This line was to run from New York to St. Louis and, from there on to San Francisco by the National Government. In 1852 an association was formed to build the Atlantic and Pacific Railroad. Accordingly in 1853, Congress authorized the making of surveys to find the most suitable routes. Four routes were discovered, which have since been utilized.

The national railroad movement stimulated interest in California. In 1855 the first railroad was built in the state. The line ran between Sacramento City and Folsom bringing about a trade with the mining region and at times a trade with Utah. The cars began running January 26, 1856, but the current expenses were high and the charges proved unprofitable. However, it augmented the need for a railroad connecting with Eastern points, or otherwise stagnation would be the result of a lack of communication other than the long journey by way of Panama.

The Republican administration of 1860 proved to be

fruitful for on July 2, 1862, a bill was passed providing for the construction of a Pacific Railroad from San Francisco or Sacramento to the Missouri River, by the Central Pacific and Union Pacific Railroad Companies. The race began and at Promontory Point, May 10, 1869, the last spike was driven after a hard struggle and the encountering of many hardships. Other railroads followed, land values increased and industry in general had a marked impetus. In a few years the Central Pacific controlled the Los Angeles and Wilmington and the Los Angeles and Santa Monica roads.[1]

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1. J. S. Hittell, The Commerce and Industries of the Pacific Coast, 162-168. For the necessity of railroads, see Transactions of the California State Agricultural Society During the Year 1864-5, 220; also the speech of William H. Hall given at the Chicago Convention in favor of a national railroad to the Pacific, July 7, 1847.

However the commercial development of the citrus industry did not really begin until the completion of the Southern Pacific railroad connection with the East. In 1876, the valley line was completed and five years later the southern line to New Orleans. Superior transportation facilities were possible now as well as the opening of a new and better fruit region. The orange market in San Francisco was strengthened and the shipping area in Southern California assumed larger proportions. Returns were good and the growers were encouraged to further engage in the growing of oranges. The tendency now, was clearly in the direc-

tion of intensification within the industry.[2]

2. Coit, Citrus Fruits, 5; Lelong, Culture of the Citrus in California, 18. For discussion of the building of the Southern Pacific Railroad, see Willard, History of Los Angeles, 310-315; J. J. Warner, B. Hayes, J. P. Widney, An Historical Sketch of Los Angeles County, California, 70.

For awhile, great hopes of prosperity were entertained. However the decade of 1870-1880 was bound to end fatally. In 1875, the bank panic struck Los Angeles and the Temple and Workman bank failed. A dry season followed and agriculture suffered. The freight rates to San Francisco were exorbitant, and competition with northern shippers made it unprofitable for the shippers in the south to receive a legitimate profit. The panic had temporarily suspended migration to California and everywhere industry had received a set back. There were a few exceptions in this period of depression for J. De Barth Shorb in 1877, declared that he had sold his orange crop from seven acres for seven thousand dollars. The first carload of oranges were shipped to Eastern markets the same year. These oranges were from the Wolfskill orchard.[3] Several years later, in 1882, J. De Barth

3. J. Hayes, "Skilled Farming in Los Angeles," Overland, VII (1871), 453; Guinn, Historical and Biographical Record of Southern California, 143; Willard, History of Los Angeles City, 315-316. See discussion of legislative regulation of railroads contained in an address made by A. A. Sargent of Sacramento 1873, Transactions of the California State Agricultural Society During the Year 1873, 149-159.

Shorb and L. J. Rose of Pasadena are said to have startled all

of Southern California by their nerve in shipping two cars of oranges to Salt Lake City. Freight rates were beyond reason but nevertheless the shipment brought a little something over the freight charges.[4] This period was followed by the "boom."

4. "Frederick J. Smith, Pomona, President of San Antonio Fruit Exchange — Fruit grower for 41 years," The California Citrograph, VII (1922), 303. The Citrograph during the past year has been running a department, entitled "Those Who Have Achieved in the Citrus Industry" which consists of autobiographical sketches. The articles are especially valuable and interesting, for they contain first hand information and reminiscences of men who were connected with the earlier history of the orange industry.

The Southern Pacific Railroad had pushed eastward, opening up a market for Southern California products in the mining region of Arizona.[5] In 1882, the transcontinental route was completed. It was not, however, until the opening of the Atchison, Topeka and Santa Fé line "that the highest development took place. From this time on, there was a veritable boom in orange planting." Profits were high and in some cases three thousand dollars per acre was reported.[6] The completion of this road meant the open-

5. Guinn, Historical and Biographical Record of Southern California, 142. S. Daggett, Chapters on the History of the Southern Pacific, 6-7, 127-133, 140-141.

6. Lelong, Culture of the Citrus in California, 19; G. D. Bradley, The Story of the Santa Fe, 207-217, 225.

ing of two transcontinental lines and the hastening of the boom. Real estate rapidly rose in price, town making began and imaginary lots were sold and the people from the East were duped as the

result.[7]

7. Guinn, Historical and Biographical Record of Southern California, 143.

In general, a fever of excitement gripped California. The development of the orange market now began in real earnest; although hampered by monopoly rule and high tariffs a good beginning was made.[8] "Successful shipment across the continent, however, awaited two important developments. First, the competitive freight rates; second, the invention of the refrigerator car." The first came in 1885 when the Santa Fé line was opened; while the second was brought about through the activity of E. J. Earl of Los Angeles. At that time, he was a leading shipper and seeing the need of fruit preservation, built at his own expense, a number of regrigerator cars. The installation of a system of icing was made in each car. The experiment proved so successful, that in time it was taken up by the railroad companies.[9]

8. Spalding, "Early Chapters in History of California Citrus Culture," The California Citrograph, VII (1922), 122.
9. Ibid., 122.

On February 14, 1886, the first special train, loaded exclusively with oranges, left the River Station, Los Angeles, via the Southern Pacific and Union Pacific Railway.[10] The rapid growth

10. Coit, Citrus Fruits, 5.

in shipments from then on, is best seen when we compare the figures given by Mr. Marble in relation to shipping. In 1886 "the Southern Pacific Railway carried East 22,715,880 pounds of green deciduous fruit," while in 1889, the shipment increased to "35,342,850 pounds."[11] O. P. Chubb, of Orange (California)

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11. E. Marble, "The Orchards and Gardens of California," Golden Era, XXXVII (1888), 13.

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was sent in 1886 by the "Orange Growers' Protective Union, of Southern California," to establish agencies in the Eastern States. In his essay on "Future Markets for California Citrus Fruits" he remarked:

> The rapidity with which California citrus fruits have, within the past five years, gained a foothold in eastern markets has greatly surprised not only Florida growers, but importers from the Mediterranean. That oranges, lemons, and limes were produced on this coast, had, of course, long been known, but active competition in quantity throughout the states east of the Rockies was neither suspected nor feared.[12]

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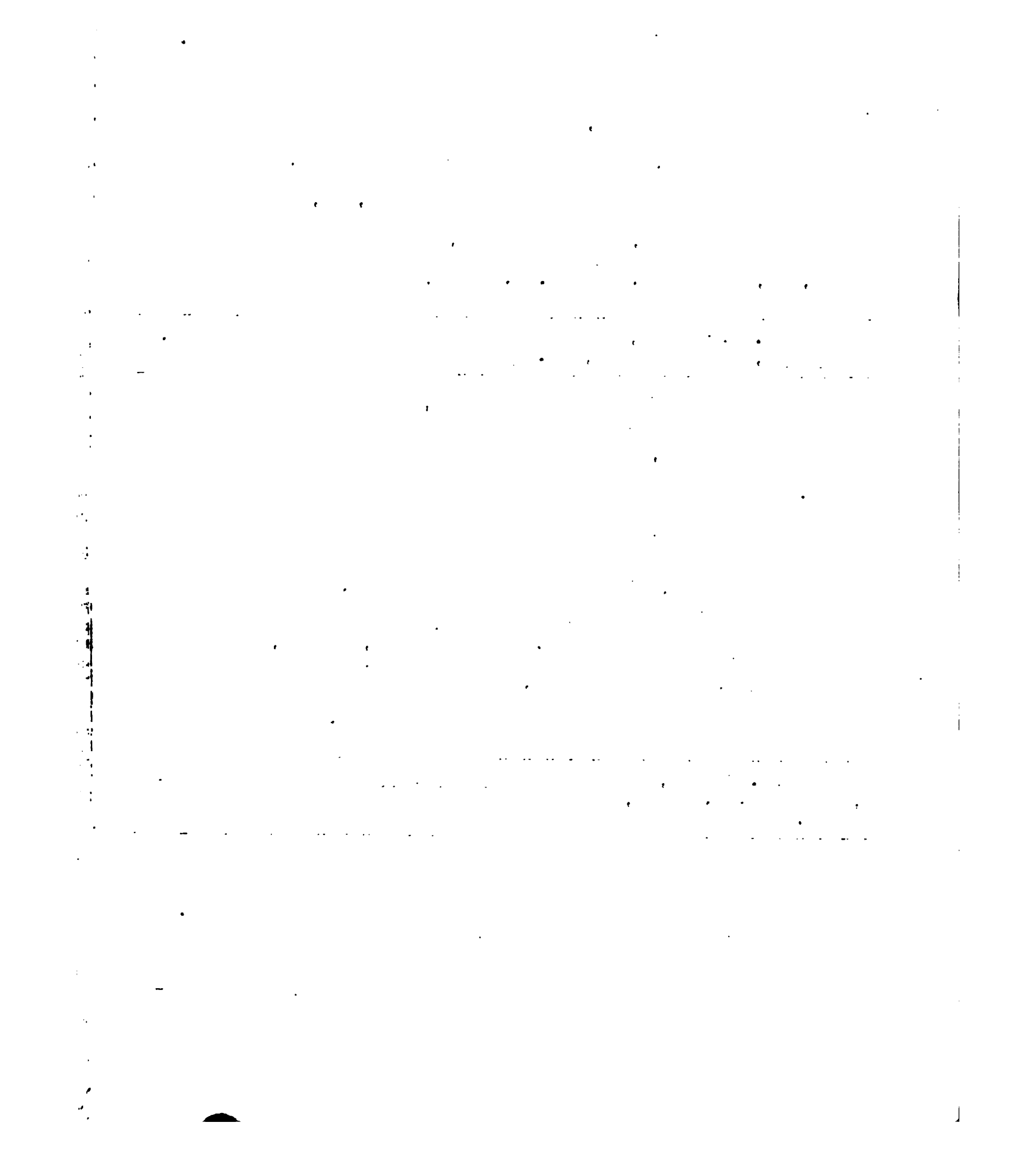
12. Lelong, A Treatise on Citrus Culture in California, 9, citing O. P. Chubb, "Future Markets for California Citrus Fruits."

Cut-throat competition developed among railroads and the consequence was a general slashing of railroad fares in 1886. The result was a heavy migration to California. In a short time there were so many visitors in Southern California, that accom-



modations were difficult to find. Besides the visitors, came the speculators. Real estate soared higher and higher and many of the ranches were subdivided to be sold as town lots. Later the railroads helped in the sale of land, for each additional sale of agricultural land meant added shipping for them. Before long the boom broke (1887), people refused to buy and the real estate craze subsided overnight. For a time, the settlers were discouraged and tried in every way to get rid of the land, which had become a dead weight. On the other hand, there were those, who had been contented with their lot, and who now were coming through the boom successfully. In the main, they were the people who had come to California to make permanent homes and to take up fruit culture as a means of subsistence. In 1880, the southern counties had a population of sixty-four thousand and by 1890, the population had increased to two hundred one thousand persons.

The new settlers were full of energy and were equal to the new task of reclaiming the arid lands. Systems of irrigation were established and thousands of trees set out and by 1890, it is surprising to note that the citrus fruit crop had grown to nearly a million boxes, yielding the growers over a dollar a box on the tree.[13]

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13. Willard, History of Los Angeles City, 333-335; Daggett, History of the Southern Pacific, 63-64.

The importance of the orange industry in relation to other

horticultural pursuits, was at this time (1892) beginning to assert itself, for out of a total fruit acreage in the state of five hundred sixty-five thousand, four hundred two acres, sixty five thousand, one hundred sixty eight acres were devoted to oranges.[14] Accordingly the shipments grew in proportion. In 1890, thirty-four thousand, two hundred nineteen tons of oranges and lemons were shipped, which increased to one hundred thirty-one thousand, nine hundred seventeen tons in 1899.[15]

14. Statistics of California Production, Commerce and Finance for the Years 1900-1, 53, published by M. M. Barnet and J. O. Leary, San Francisco.

15. "Accurate California Statistics," Land of Sunshine, XIV (1901), 54. See R. M. Teague, The Citrus Fruits, 5.

Numerous other railroad lines and branches were added from time to time by both the Southern Pacific and Santa Fé lines. Most important of these lines were the ones to San Diego (1891) and Santa Barbara (1887).[16] The extension of railroads worked in

16. Willard, History of Los Angeles City, 339. For an account of the coming of the Santa Fé railroad into San Diego see, W. E. Smythe, History of San Diego 1542-1907, 391-401.

relation with the planting of more orange trees and the increase of shipments. It was possible now, for orchardists to settle at a distance from Los Angeles, the early center of the industry, for transportation and a market for their produce was assured. By

1901 the orange industry had attained mammoth proportions.[17] Since

17. Willard, History of Los Angeles City, 352.

the railroad impetus the growth of the industry has been characterized by large strides and likewise Southern California has benefited from the growth. Land values increased, immense land areas were reclaimed and planted to oranges and the population grew beyond conception.

The second factor which tended to develop interest in the growth of the orange industry, was the effort to promote colonization.

Various methods were used to encourage migration to California. Without doubt, books which were written at the beginning of this period, served to stimulate interest in California. Nordhoff's book was one of many, containing suggestions for both "travellers and settlers." The California Immigrant Union, issued pamphlets gratuitously, "to induce settlers here," describing the conditions under which titles to public land could be obtained and descriptions of industrial and agricultural opportunities.[18]

18. C. S. Capp, All About California and the Inducements to Settle There, 13-15, 30.
The enthusiasm, aroused by Roubideaux in 1840, is described by John Bidwell. Roubideaux had been to California and his speech aroused the desire of many people living in Platte County, Missouri, to migrate. Bidwell wrote, "He described it as one of perennial spring and boundless fertility. He told about oranges, hence he must have been at Los Angeles, or the mission of San Gabriel, a few miles from it" (General John Bidwell, Echoes of the Past, 6.

It was not until the late seventies that colonization schemes began to materialize, with the exception of the German colony at Anaheim. In some ways, colonization was the natural outgrowth of the stimulated migration during this period, as well as, the capital and enterprise, which the men and women of this migration possessed. The birth of the colony movement awakened a new spirit, both in the progress of the state as well as in the orange industry.[19]

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19. Wickson, California Nurserymen and the Plant Industry, 1850-1910, 33.

Coupled with the railroad movement, was the metamorphosis which had been wrought in land holdings, for both stimulated migration. The large estates, after the American occupation tended to pass out of existence. Squatters came upon the land and in time, claimed it as their own. In other cases, the land owners were forced to sell parts of their original grants, to relieve the debts brought on by a serious drought in the years preceding 1864. Passing into the hands of the Americans, they were divided into farming tracts, of from forty to one hundred sixty acres or more, according to the pecuniary means of the purchasers. The land without doubt, was put to a better use and land values rose

accordingly with the demand.[20] The menace of latifundia passed. It became an utter impossibility and a financial hazard to engage in intensive agriculture when the acreage was too large. The "no fence law" in 1873 further reduced the size of the holdings and made it safe for farmers to engage in agriculture without fear of roaming cattle endangering the crops.[21] The law proved an incentive, to the taking up of small holdings, from ten to twenty acres which were found to be peculiarly adaptable to fruit or vegetable culture. "In 1870, one half the farms in Los Angeles County were between three and fifty acres in size, and with the extension of the irrigated area, the general average declined."[22]

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20. Hittell, History of California, III, 666-667. For an account of the squatter troubles and the land commission see Hittell, Op. Cit., III, 668-704; also Coman, Economic Beginnings of the Far West, II, 248-255.

21. Nordhoff, California for Health, Pleasure, and Residence for Travellers and Settlers (1882), 148.

22. Hayes, "Skilled Farming in Los Angeles," Overland, VII (1871), 449. An interesting indictment of Americans in relation to squatter rights and titles is found in Colton, Three Years in California, 359-360.

The subdivisions of the large land grants in Los Angeles stimulated the founding of settlements. Chief among the colonies and settlements ware those of the Indiana Colony (which later developed in Pasadena), Riverside, Redlands, Pomona and many others. It is little wonder that the colonies proved successful, for the advantages offered by colony settlements were numerous.

Added to that, was the scarcity of small tracts of land to be had on suitable terms, outside of these enterprises.

The Indiana Colony found its origin in Indiana at the home of Dr. T. B. Elliott, where a group of his friends met and together matured a scheme to form an association called the California Colony of Indiana. Plans were made immediately to send some of the pioneers to "spy" out the land, select a tract well timbered, well watered, adaptable to the culture of citrus fruits and "which could be bought for about three dollars per acre." Several of the pioneers were selected to go ahead and set out vineyards, plant orchards, provide irrigation facilities and perform many other duties. D. M. Berry solved the problem of location. It is said that he was a sufferer of asthma and at the invitation of Mr. Eaton, spent the night in his home. In the morning, he awoke to gaze upon the location of what is now Pasadena. The site was ideal and to Mr. Berry it was doubly so, for he had spent the first comfortable night in three years. After discovering the location, offices were opened and attempts were made to induce other settlers to come west, join the colony and buy San Pasqual lands. The plan proved successful and November 13, 1873, the colonists voted to organize themselves into a corporate body called the San Gabriel Orange Grove Association. The corporation was to exist ten

years, and have a capital stock of $25,000, divided into 100 shares of $250 each. The articles of incorporation were signed just a month later and work was begun at once.[23]

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23. H. A. Reid, History of Pasadena, 106-111, 123; for an account of the purchasing of Dr. J. S. Griffin's interest in the San Pasqual Rancho, see Reid, Op. Cit., 78; C. H. Shinn, "Los Angeles — Studies of a Century of Change," Overland, XIII (1889), 223.

Guinn mentions an earlier attempt at colonization by the San Pasqual Colonization Company in 1870. Stock did not sell rapidly and nothing came of the venture (Gwinn, Historical and Biographical Sketch of Southern California,140.

It was not long before the old sheep pasture of the San Pasqual Rancho was transformed into orange groves and of the four thousand acres purchased, one thousand five hundred were subdivided into lots varying in size from fifteen to sixty acres. Although there was not a professional or practical horticulturist among them, they had little trouble in the planting and cultivation of citrus fruits. The success of their task, also proved that it was possible for orange trees to grow on mesa land, as well as in the sandy river bottoms. In 1875, the settlement ceased to be the Indiana Colony and officially became known as Pasadena — a name of Indian origin (Chippewa dialect) translated as "crown of the valley."[24]

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24. Fish, "The Profits of Orange Culture," Golden Era, XXXIV (1890), 115; Guinn, Historical and Biographical Record of Southern California, 140; J. W. Wood, Pasadena, Historical and Personal, 53-62, 85-87.

At the end of two years, the colonists were credited with the planting of ten thousand orange and lemon trees, besides about seven thousand other deciduous trees and nursery stock.[25]

25. Wood, Pasadena, Historical and Personal, 67.

So rapidly did the Orange Grove Association sell its lands that another colony subdivision of lands was made by B. D. Wilson in 1876.

> ..... This new colony tract comprised about 2,500 acres of land, eastward, with Fair Oaks Avenue, as the line of separation from the original plat; and it was named the "Lake Vineyard Land and Water Company" from the name of Mr. Wilson's homeplace, he being himself the "company" with his son-in-law, J. De Barth Shorb, as general manager.

The tract was to be laid out in five and ten acre lots and water was to be piped to each lot from a reservoir, at the end of the original "Wilson Ditch."[26] The ditch according to Dr. Widney was constructed in 1867, when Doctor Griffin and B. D. Wilson found it necessary to bring water from the Arroyo Seco, out upon the lands of the San Pasqual rancho. The project amounted to fifteen thousand dollars.[27]

26. Reid, History of Pasadena, 112-113.
27. J. J. Warner, B. Hayes, J. P. Widney, An Historical Sketch of Los Angeles County, California, 68; W. H. Hall, Irrigation in Southern California, 480, 495, 501-508.

The colonies grew, notwithstanding the many problems which arose. Enthusiasm carried them forward in the march of progress,

in precisely the same manner as the inexperienced men became expert orchardists. However Pasadena underwent a doubtful period. During the boom, excitement ran wild, orchardists subdivided their orange groves into town lots. Little foresight prevailed and when the boom broke, the lots were not sold and the orange trees were gone. Following the boom, came the destruction of the trees by the cottony cushion scale, and closely upon that the bank panic.[28] It was not long before the reaction came and a back to

28. Guinn, Historical and Biographical Record of Southern California, 143; Wood, Pasadena, Historical and Personal, 144-186; Fish, "The Profits of Orange Culture," Golden Era, XXXIX (1890), 115-116.

the soil movement replaced wild speculation. Citrus culture was again resumed and the enthusiasm had grown in leaps and bounds after the holding of the first citrus fair, March 24, 1880. This fair was held in the schoolhouse and although small in exhibit, it served its purpose of advertisement and in addition demonstrated the superior value and quality of the fruit grown in this section. Again in 1885, another fair was held. Orange culture grew and in 1893, it was found necessary to organize a cooperative marketing association known as the Pasadena Fruit Growers Association. The incentive of improved marketing conditions, brought about additional growth in the industry and indirectly aided the growth of the city of Pasadena. Thus the original

Indiana Colony, beginning as a mere fruit growing community, developed into a large city, surrounded by some of the most extensive orange groves in the state.[29]

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29. Wood, Pasadena, Historical and Personal, 136-137, 142, 491; Reid, History of Pasadena, 113, 410-413, 457-458.

At a more distant location from Los Angeles, another important citrus fruit colony was established. This colony contributed in a large way to the modern development of the orange industry. The colony at Riverside owes its origin to Hon. J. W. North of Knoxville, Tennessee, who conceived the "idea of getting up a colony of people of means and intelligence to engage in semi-tropical fruit growing in Southern California." Accordingly, he issued his first prospectus March 17, 1870. This prospectus contained plans for organizing a colony, somewhere near the line of the projected Southern Pacific Railroad. The aim as stated was "appreciating the advantages of associated settlement, we aim to secure at least one hundred good families, who can invest $1,000 each in the purchase of land," Not only was capital invited to join but any good industrious people were welcomed. A committee was sent to buy suitable land and on September 14, 1870, land was bought consisting of "8,735 acres, comprising the Rubidoux rancho, and the eastern end of the great Jurupa, or Stearns' rancho." The purchase price was about three dollars

per acre. The colony was then formally designated as the Southern California Colony Association and in April 1871, the association selected the name Riverside.[30]

30. E. W. Holmes, History of Riverside County, 24, 28.

In 1871, the first orange tree was brought into Riverside by L. C. Waite from a Los Angeles nursery. Arriving home too late to plant the tree, the planting was deferred until the next morning, Sunday, March 1, 1871. Dr. Shugarte, "fearing that the tender roots would suffer from exposure, arose early and planted the tree" which had been brought for himself. To him, lies the credit of planting the first orange trees in Riverside. The following year, the first nursery was established by D. C. Twogood.

For the first few years, the settlers found it a hard pull, profits seemed far away and the winters were exceptionally dry, making it necessary to flood the land before breaking it. Encouragement was engendered by trips to Alhambra and San Gabriel, where they could see the flourishing trees of B. D. Wilson and others. Nevertheless, the settlement became almost self supporting in 1873,[31] for on September tenth of the same year, Judge North

31. Ibid., 44-45.

reported that:

> .... Within a little more than two years from the time we brought water on our land, we had about 300 inhabitants, 3,000 acres under cultivation, 10,000 shade and ornamental trees, 10,000 fruit trees in orchards, and 2,000,000 in nursery. We have already received fruit from our trees and vines..... and the time is near when our orange and lemon groves will be in bearing....[32]

32. W. D. Frazee, San Bernardino County, Its Climate and Resources, 39-40.

Two years later, Nordhoff wrote of the irrigation system in Riverside, which had been built at considerable cost. He wrote, "near San Bernardino lies the land of the Riverside Colony." There were eight thousand acres, which the colonists were able to irrigate besides an additional fifteen thousand acres on the plains lying somewhat lower down. He further remarked, "The land has been but lately open to settlement, and as it is a large, open treeless plain, with but a few small houses scattered over it, it does not look very inviting."[33] In 1874, S. C. Evans organized

33. Nordhoff, California for Health, Pleasure and Residence for Travellers and Settlers, 146.

the Riverside Land and Irrigating Company and purchased the lands and water rights of the Southern California Colony Association. Canals were soon in the course of construction and the land was rapidly changed from a desert waste to one of thriving orange groves.[34]

34. Holmes, History of Riverside County, 30. See Hall, Irrigation in Southern California, 207-216.

Land was considered expensive under the company prices of twenty to forty dollars an acre; however there were buyers and the colony lands were soon disposed of and before many years prices rose beyond conception for in 1897 land sold for from one thousand to three thousand dollars per acre. Since then prices have risen steadily.[35]

35. Nordhoff, California for Health, Pleasure and Residence, 146; Holmes, History of Riverside County, 30.

Soon after 1874, a change in ownership brought about the end of the colonial period of Riverside and the land then became consolidated under the control of a corporation known as the Riverside Land and Irrigation Company. This change, also brought the end of Judge North's right to shape the policy of the settlement. He did admirable work, which without doubt excels any other pioneer in the development of Riverside.[36] From that time

36. Holmes, History of Riverside County, 47.

on Riverside enjoyed a history similar to that of Pasadena, except for the introduction of the Washington Navel orange, a signal honor belonging exclusively to the former. This introduction stimulated planting and scientific study more than any other interest factor. Riverside, itself, increased in area and before long many towns adjacent to it sprung up, with Riverside as an example.

Most conspicuous among the successful imitators, was the colony at Redlands, undertaken by Judson and Brown. The color of the land led to the name of Redlands. The soil in itself possessed an intrinsic value for the culture of oranges; however, in order to interest other people in joining the colony, it was necessary to advertise, using the prestige of Riverside, rather than praising the potentialities of the soil. For awhile, Redlands was known as an "extension of East Riverside" while Colton on the other hand was called "South Riverside."[37]

37. Holmes, History of Riverside County, 47.

In 1886, the site for the present town of Redlands was surveyed. However, the site was not considered useable, until after Brown and Judson proved to the people, that they could irrigate the four thousand three hundred twenty acres, which they had partly purchased from the Southern California Railroad officials in 1881. Through their enterprise they were able to make water literally "flow up hill," for they were successful in transferring the water from the Santa Ana River to a reservoir on the south side of the valley by the means of an open canal. The Redlands Water Company organized the same year. In a short time the valley was made ready for orange culture and the first orange trees for planting were "procured in San Diego and brought by wagon from Temecula Canyon." Trees were planted by the majority

of settlers and from the very first the orange industry throve in Redlands. The advent of the Bear Valley dam proved to be a God send to irrigation, and in turn helped toward the promotion of the orange industry. Another factor which contributed to the growth of Redlands as well as to the industry was the founding of the Chicago Colony, which had been organized February, 1886, in Chicago. A committee was sent to select a location for a fruit raising colony somewhere in Southern California. The location was found and the "Somers Tract" lying west of Crafton and east of Redlands, was purchased. Fruit culture began at once and before long swelled the fruit production of Redlands and in addition brought about a rapid increase in the number of new settlers.[38]

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38. Mrs. E. P. R. Crafts, Pioneer Days in the San Bernardino Valley, 156-159, 167-168.

There were many orange orchards planted, chief among them were: the first orchard planted in Lugonia, June 1874, by Colonel W. R. Tolles; the one at Old San Bernardino planted by Mr. Van Leuven, and the orchard planted at Altoona ranch in 1870 by Mr. Crafts. It is said that Mr. Crafts was the first in 1882 to make a sale of oranges in the eastern valley. John Ring, a boarder at the "Crafton Retreat" a hotel, packed the boxes, which were "hauled to Colton by team and there sent by rail to Los Angeles,

from which place they were shipped to San Francisco by steamer, where the fruit was sold on commission."[39]

39. Crafts, Pioneer Days in the San Bernardino Valley, 142, 130, 204.

Tisdale in 1901 depicted the story of Redlands as a "romance of peace and progress."

> .... It is a typical illustration of the development of Southern California during the past twelve years, commencing with the close of the great "boom" of 1887. At that time there was little in Redlands except a few hundred acres of newly planted orange orchards, a brick block or two, a few score unpretentious dwellings, some pioneer houses and a right of way for a railroad to San Bernardino, the county seat.[40]

40. W. M. Tisdale, "Redlands," Land of Sunshine, XIV, (1901), 77.

Comparable with the rise in land values in Riverside, we find a decided increase in real estate prices in Redlands. Land which could have been bought from railroad companies for a dollar and a quarter an acre in 1889 could hardly be touched at two thousand dollars an acre in 1901.[41]

41. Ibid., 81.

San Bernardino, although settled in the fifties, likewise profited from orange culture. Nordhoff about 1875 remarked that "all the fruits and grains which are raised in Los Angeles grow

here as well, some even better. I have not seen anywhere more thrifty orange and olive trees than at one or two farms near this town."[42]

42. Nordhoff, California for Health, Pleasure, and Residence for Travellers and Settlers, 142.

There were other colonies, such as Ontario and Pomona, but for our purposes, the above illustrations are typical of the growth of the many towns which have sprung up, literally overnight, as a result of fruit growing ventures. The orange area has so widened, that in 1908 this fruit was found growing in Imperial Valley, a region once deemed out of the question as to cultivation and raising of oranges, let alone other fruits or vegetables. Eldredge visited the valley in that year and wrote, " In December, 1908, I visited the valley and plucked a delicious orange from a four year old tree in a grove, in the midst of a terrible desert."[43] Statistics for the year 1921 contained the amazing number of one thousand eight hundred seventy bearing trees and four thousand, two hundred eighty non-bearing trees.[44]

43. L. S. Eldredge, The Beginnings of San Francisco from the Expedition of Anza 1774 to the City Charter of April 15, 1850, 316.

44. J. T. Coyle, Facts on Imperial County, California.

The stupendous growth in population, towns and orange orchards is readily seen by comparing Southern California as

seen by J. S. Hittell in 1880 and the summary of the growth of these towns and the admirable work of the pioneers, by Spalding. In 1880 the "chief orange center" was San Gabriel. Riverside was "next in importance," having the "handsomest fruit, though most of the orchards were not in bearing." The town at that time had in orchard two hundred nine thousand orange trees, of which twenty eight thousand were in bearing. Hittell further adds,"Pasadena, Anaheim, Santa Ana, Tustin City, Orange, Westminster, San Bernardino, San Diego, Santa Barbara, and Santa Paula have set out numerous orchards."[45] On the other hand in

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45. J. S. Hittell, The Commerce and Industries of the Pacific Coast of North America, 235.

1922, it is possible to look back upon the work accomplished by the settlers. Spalding speaks of them, as the "progressive settlers, who took up the work in the seventies and eighties," as the "real founders of the great horticultural and commercial industry that we now have." Although the majority of them had been city dwellers, they were enthusiastic in attacking an industry still in its primitive stage, and before many years demonstrated the possibilities of the foothills for orange culture, developed latent water resources and aided in the development of an orange market which was almost out of question

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at the time of their arrival.

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46. Spalding, "Early Chapters in the History of California Citrus Culture," The California Citrograph, VII (1922), 94. See Fairbanks, California, 19.

CHAPTER V.

Modern Development; Introduction of the Washington Navel Orange and Coöperative Marketing.

The introduction of the Washington Navel orange was the third factor to increase interest in the development of the orange industry. With its introduction, came a change in method of propagation and budding. It supplied a long felt need for superior fruit, fruit which could be utilized for commercial purposes, capable of preservation, uniformity, fine appearance and distinctiveness.

Up to this time, the majority of oranges grown in California were seedlings. Considering that this variety lacked uniformity in size and shape, the trees growing too high for inexpensive picking and possessing many other disadvantages, it was little wonder then, that after the introduction of the navel orange that the "old seedling groves were cut down and replaced by budded trees or top-worked to improve varieties, until at the present time comparatively few remain."[1] As early

1. Coit, Citrus Fruits, 65.

as 1861, the growers realized the imperfection of the seedlings. A letter, written by P. H. Ray to the editor of the Los Angeles Star, December 19, 1861, urges the introduction of new varieties.

"We have no genuine oranges in this State but we have many seedlings. Trees grown from seed, have a tendency to degenerate...." The writer continues, "we must have better fruit..." and then suggests the importation of varieties such as "the Maltese orange or the Portugal orange, in order to graft or innoculate the many seedlings of the country."[2]

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2. Hayes Collection, Southern California, Agriculture, I, 344, citing Los Angeles Star, December 19, 1861.

Mention of the navel orange was made by John Johnson, Doctor of Medicine (Frankford on Main) in 1662. In his work, The Natural History of Trees and Fruits, he included illustrations of this variety but no description appears in the text.[3] Some years before, in 1646, Baptiste Ferrari in his famous work, describes an orange which is undoubtedly the navel orange which we know.[4]

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3. Lelong, Culture of the Citrus in California, 52-53.

4. For reference to his work, see thesis, 2. Hume in his discussion of the early history of the navel orange, includes the description given by Ferrari; in addition he refers to Volckamer, whom he believes copied Ferrari. (Hume, Citrus Fruits, 33-34). For illustrations see C. F. Lummis, "Citrus Fruits 250 Years Ago," Out West, XVI (1902), 126, 255, 377.

The navel orange was carried to Brazil by the Portuguese, where it soon grew and in some places flourished in a wild

state.[5] In 1870, William Saunders, then in charge of the

5. For conjectures as to origin and introduction into Brazil, see P. H. Dorsett, A. D. Shamel, and W. Popenoe, "The Navel Orange of Bahia with Notes on Some Little Known Brazilian Fruits," United States Department of Agriculture, Bulletin 445, 2-3.

propagating grounds at Washington, D. C., through the assistance of a lady missionary stationed at Bahia, had twelve trees of the Bahia navel orange propagated and sent to Washington. The presence of the seedless trees growing in the swamps on the banks of the Amazon, was made known to William T. Judson, United States Consul of Bahia, by the natives. Some doubt exists as to whether it was at his instigation or Mr. Saunders' that the trees were sent to Washington.[6] However, the twelve trees reached Washington only to be ignored of their great value. They were used indiscrimminately as a source for buds to be used in propagating other trees. The original twelve are said to have passed out of existence due to a lack of care more than any other reason.[7] The importance of this variety, was not known until

6. Coit, Citrus Fruits, 17. Compare "Seedless Oranges," Scientific American, LXXXII (1900), 326.

7. Coit gives the number of trees sent to Washington as twelve, while an account printed in the New York Sun and reprinted as a magazine article gives the number as six. According to this article, two of the shoots which were not larger than horsewhips died from neglect, and the remaining four were forgotten ("Origin of the Seedless Orange," Current Literature, XXVII (1900), 159).

they came into possession of Mrs. L. C. Tibbets.

Early in the year of 1871, the lands at Riverside were open for settlement. Reports of the colony had been scattered through the East by Judge North, and the desire to migrate to this promising colony filled the minds of Mr. and Mrs. Tibbets, and accordingly in the next few years they began making plans for their journey west.[8] At the suggestion of General B. F. Butler, Mrs. Tibbets visited the propagation gardens at Washington, D. C., where she applied to Mr. William Saunders, then in charge of the department, for a few fruit trees to take west with her.[9] He gave her three young trees of the Bahian navel, which

8. Spalding, "Early Chapters in History of California Citrus Culture," The California Citrograph, VII (1922), 66.

9. C. S. Pomeroy, "Concerning First Washington Navel Planting in California," The California Citrograph, VII (1922), 239. Compare "James Boyd Disputes Tibbets' Tablet Date and Other Things," The California Citrograph, VII (1922), 351.

she planted in either 1873, 1874 or 1875. Both the number of trees as sent by Mr. Saunders and the date of planting are subjects of dispute.[10] Spalding[11] and Coit both claim there were two trees while on the other hand, Mr. Boyd speaks of three trees, one of which died as the result of a cow trampling on it.[12] The question

10. Spalding, "Early Chapters in History of California Citrus Culture," The California Citrograph, VII (1922), 66.

11. Coit, Citrus Fruits, 17.

12. "James Boyd Disputes Tibbets' Tablet Date and Other Things," The California Citrograph, VII (1922), 351, citing a paper by S. L. Wright.

of the exact date of planting has arisen in the past few years, as a pertinent problem in Riverside, awaiting a correct solution. The problem arose some time ago but was augmented by the date on the tablet erected to Mrs. Tibbets. The inscription on the tablet is as follows:

To Honor
Mrs. Eliza Tibbets,
and to commend her good work
in planting at Riverside in 1873,
The First Washington
Navel Orange Trees
in California.
Native to Bahia, Brazil,
Proved to be the most valuable
Fruit Introduction yet made by
The United States Department
of Agriculture,
1920.[13]

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13. "Honor to Mrs. Eliza Tibbets, 'Mother' of Washington Navel," The California Citrograph, VII (1922), 239.

James Boyd emphatically denies that the trees were planted in 1873 and to prove his point quotes L. S. Wright who settled in Riverside in 1875. "... I saw the trees planted in the spring of 1875, when I was on my way to school. When I was passing Mrs. Tibbets

called me in to see the trees planted."[14]

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14. "James Boyd Disputes Tibbets' Tablet Date and Other Things," The California Citrograph, VII (1922), 351. "The great mistake," as he says, "came from Washington where they have no record at all of sending the trees to Riverside."

The trees were planted beside the Tibbets cottage and grew so successfully, that in a few years, they attracted attention throughout Southern California. The fruit produced was the subject of a private meeting of fruit growers in the winter of 1877-1878.[15] The following year, some of the fruit was exhibited at the citrus fair held at Riverside by the Southern California Horticultural Society. The fruit won the first prize over the navels exhibited by Orange County.[16] It was not long before the

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15. Coit, Citrus Fruits, 18.

16. The citrus fair held February 12, 1879, represented a sharp contrast to the stupendous affairs now held in Riverside. The exhibit then was "mainly of seedling oranges, Mediterranean Sweets, St. Michaels and Ronahs, with a few specimens of the navel orange;" The exhibit of four boxes of fruit was considered an unusual amount of fruit to be exhibited by one person, as the exhibits usually "were on plates and the plates were not heaped" (Guinn, Historical and Biographical Record of Southern California, 201).

Through some manner of means, Mr. T. A. Garey imported a large number of the false Bahian navels, which he sold to the orchardists near Los Angeles. In general, this variety is known as the Australian navel but does not compare with the true Bahian or Washington navel (Coit, Citrus Fruits, 13-16, 19).

As to Mr. Garey compare "James Boyd Disputes Tibbets Tablet Date and Other Things," The California Citrograph, VII (1922), 351.

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two trees were supplying the whole countryside with buds. The

first buds available were budded into young stock, owned by Sam McCoy and Josiah Cover, neighbors of Mrs. Tibbets. As a result, some of their trees were the first to bear fruit. The property of the above men was later sold to B. B. Barney, who maintained the orchard until the summer of 1921, when the trees were removed.[17]

17. Pomeroy, "Concerning First Washington Navel Planting in California," The California Citrograph, VII (1922), 239.

Buds sold at a good price and the demand continued to exist, for a letter written by Mr. Barney August 22, 1889, contains the statement that he sold all the extra buds off his own trees at fifteen dollars per thousand. Buds were not only taken from the two original trees but from trees growing in neighboring orchards, which had been budded from them. It was little wonder that the two original trees did not attain average size, for the constant stripping of buds dwarfed their growth.[18] Specimens of the fruit

18. Ibid., 239.

were carried about Southern California and shown to all ranch men and fruit growers. For awhile, many were dubious of planting a tree bearing such perfect specimens, fearing that the stock and fruit would deteriorate in a few years. After the second crop, totaling about a box, the orchardists were surprised to find even better fruit and it was not long before their doubts were dispelled and a general fever pervaded the country of transforming

their seedling groves into the more profitable seedless variety. When the first navel orange groves began to bear, the excitement became tense and the sole thought of almost every orchardist was to follow in the footsteps of his neighbor.[19]

19. "Origin of the Seedless Orange," Current Literature, XXVIII (1900), 159.

For a few years after the introduction of the navel orange, it was known as the Washington navel, for it is readily seen that this term was more familiar than Bahia, the original name. However, in 1883, the people in Riverside wished to change the name, localizing it more or less for advertisement purposes. The name suggested was the Riverside Navel, and at once opposition arose. "O. H. Conger of Pasadena and others vigorously opposed this, to such good purpose that the name Riverside Navel became a synonym."[20]

20. Coit, Citrus Fruits, 20.

However the suggested name was gradually discarded and the term Washington unfortunately too is not applied as frequently today as it was in the eighties and nineties. Nevertheless, Riverside received an inconceivable amount of advertisement and before many years had elapsed, became known throughout the orange circles in the United States, as one of the finest orange producing countries in the world. In 1884, the Cotton Exposition held at New Orleans

brought additional advertising through the display of oranges from Southern California. Washington navels were among the twenty varieties exhibited from Riverside and took the premium over Florida fruit. This proved to be an "eye opener" to the Californians as well as to the Easterners and immediately an era of planting began.[21]

21. Willard, History of Los Angeles City, 326; Lelong, Culture of the Citrus in California, 20.

In regard to the Tibbets' trees and to their owners: Mr. Tibbets, we are sorry to say, was improvident; his wife alone possessed the ingenuity of the family. Unfortunately, he permitted the homestead to pass out of his hands, although, through the kindness of Louis Jacobs the new owner, the old couple were allowed to live in the little cottage until the death of Mrs. Tibbets. After her death, "Mr. Tibbets was cared for at the County Hospital until he died July 1, 1902." Mr. Jacobs treated the trees with consideration for he gave one to Frank A. Miller, the proprietor of the Glenwood Hotel and the other was transferred to a small plot of ground at the head of Magnolia Avenue, where it was enclosed by a substantial iron fence and entrusted to city care.[22] Recently, the tree at the Mission Inn died. Its loss

22. Coit, Citrus Fruits, 21-23.

was regretted by many, especially those who had attended the

ceremony of transplanting the tree from the Tibbets homestead to the hotel garden, May 7, 1903. It is interesting to know that President Roosevelt, a guest at the hotel at the time, assisted in the transplanting exercises.[23] Portions of the tree are to be cut off and given to the United States Department of Agriculture and the Citrus Experiment Station at Riverside for preservation. The main trunk of the tree will be removed to another place in the garden, and another tree, budded from the remaining original, will be planted with "due ceremony."[24]

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23. Coit, Citrus Fruits, 22.
24. "Parent Washington Navel Tree at Mission Inn is Dead," The California Citrograph, VII (1922), 321.

The introduction of the Washington navel, has without doubt been one of the strongest interest factors leading to scientific research. Not only has it brought about new methods of propagation, but it has proved an incentive to increase the production of oranges. "Up to the time of the discovery of this variety, not more than twenty five thousand dollars had been invested in the orange industry in California." In 1906, the industry in the Southern part of the state, alone represented over one hundred million dollars with an annual income of fourteen millions.[25] The practice in budding, which the navel orange brought

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25. B. M. Smith, "Growing Oranges in California," Worlds Work, XI (1906), 7334.

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about, helped in a measure to revolutionize the industry. Commercially it has been of great advantage, for budded roots bear earlier than seedlings, are of greater value for market purposes, possess a characteristic trade mark, and are lacking in seeds. It has also been a potent factor in the reclamation of sun baked areas and in the growth of towns.[26]

26. "Origin of the Seedless Orange," Current Literature, XXVIII (1900), 159; J. P. Whitney, "Educational Orange Growing," Sunset, XVII (1906), 161; Nordhoff, California for Health, Pleasure and Residence for Travellers and Settlers, 125, 130; G. T. Weeks, "The Orange," Overland, XIII (1889), 242; Coit, Citrus Fruits, 67.

Since the introduction of the navel orange, the Valencia orange has been introduced with considerable success and today the other varieties have been practically eliminated except for these two. At present, they are the two standard products of Southern California.[27]

27. Spalding, "Early Chapters in History of California Citrus Culture," The California Citrograph, VII (1922), 66.

The last factor, to be considered in its relation to the growth and development of the orange industry, is cooperative marketing. This factor has been made possible by a combination of the three preceding ones. In fact, it has come as a natural outgrowth of railroads, colonization, increase in population and the introduction of a new commercial variety of orange. This last

generation has been characterized by cooperation and by bombinations in business, made necessary by the fact that "modern industry is completely dominated by large aggregations of capital." Thus the growth within the orange industry has been accompanied by a growth in power and organization of those who contribute to the industry. Man no longer is self sufficing, he can not lean entirely upon his own efforts, therefore he must combine with others, in order to get the best returns both in labor and capital. Orange growers, have their common problems to meet, "they are confronted with similar questions of public policy, they purchase similar supplies, they seek similar markets, they have to face the same questions of production, of transportation, of distribution, and of sale." It is natural, then, that they combine in order to lessen their personal risk, at the same time strengthening the organization of the orange industry, in order that the industry will rest on a sound financial basis.[28]

28. G. H. Powell, Coöperation in Agriculture, 1-5.

The first marketing of oranges on a commercial scale was done by William Wolfskill. At first supplying home demand, he widened his area of sales until they reached San Francisco and later the oranges from his grove were the first to go east

by the newly built railway.[29] Other fruit growers followed suit,

29. Spalding, "Early Chapters in History of Citrus Culture," The California Citrograph, VII (1922), 122; see thesis, 55-60.

but always with the fear of losing their profits. A few individual and firms took up the business of buying and shipping citrus fruits in the early seventies. The firm of Woodhead and Gay was established which proved to be one of the largest agencies at the time. The method, they employed in buying fruit was crude in comparison to the methods today. It was the custom for the buyer to visit a grove, make a "Yankee" guess as to the quantity of the fruit and bid a lump sum for the crop. In case his bid was accepted, the responsibility from then on was his, in regard to picking, packing, shipping and marketing.[30] The inefficiency of this method was frequently demonstrated, for in 1881, the orange market was "glutted," growers were forced to allow the oranges to drop and covered them up lest "others should see how foolish they had been to raise citrus fruit."[31]

30. Spalding, "Early Chapters in History of California Citrus Culture," The California Citrograph, VII (1922), 122.

31. "Frederick J. Smith, Pomona, President of San Antonio Fruit Exchange — Fruit Grower for 41 Years," The California Citrograph, VII (1922), 303.

Methods of packing the fruit to be shipped were no better. Oranges were picked, thrown into boxes regardless of size or con-

dition, shaken vigorously, a few more added and the lid was nailed down. It was little wonder that great losses were incurred and that a great share of the oranges within a box would be totally unfit for use by the time they reached their destination. Necessity, in time, "proved the mother of invention," and before long Griffin and Shelly of Riverside introduced a box, which is used at the present time. Clippers also were introduced and the picking of fruit was more carefully executed as the result.[32]

32, "R.H. Shoemaker, Jr. of Lindsay, with nearly 40 Years Experience, Talks Interestingly of Industry Developments," The California Citrograph, VII (1922), 335.

In the eighties, a reaction occurred, intense activity in planting of trees and nursery work were superseded by the problem of how to sell the produce. The problem was agitated among the orange growers and the idea of cooperative marketing through orange associations was promulgated.[33]

33. Wickson, California Nurserymen and the Plant Industry, 40.

Cooperation among orchardists was augmented through the organization of farmers' clubs; chief among them in California was the Claremont Pomological Club.[34] In 1893, a convention of

34. See A. J. Cook, California Citrus Culture, 102-103.

orange growers was held in Los Angeles, with the result that an organization was formed for the purpose of marketing the fruit on a cooperative basis. "With only a nominal capital, the Southern California Fruit Exchange came into existence, rather as an association for mutual benefit than as a specific business enterprise."[35] The exchange came as a "child of necessity" for in that year, marketing conditions and the "arrogance of the railroads were intolerable."[36]

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35. Smith, "Growing Oranges in California," Worlds Work, XI (1906), 7331. Coit gives the date as October 2, 1895 (Coit, Citrus Fruits, 346).

36. Coit, Citrus Fruits, 345-346; "Cooperation among Fruit Growers," Outlook, LXXIV, 304-305. See B. M. Lelong, "Co-operative Movements and Organization of the California Fruit Exchange," California State Board of Horticulture, Biennial Report, 1893-1894, 401-404, 412-415.

G. H. Powell describes the California Fruit Growers' Exchange as:

> An organization which acts as a clearing house in providing the facilities through which sixty-five hundred growers distribute and market their fruit. The exchange system is built on three foundation stones: the local associations of growers, through which the fruit is prepared for market; the district exchanges into which the associations of a community are federated, and which act as clearing houses for the local associations; and the central exchange, which provides agents through which the district exchange in coöperation with the associations distribute and market the fruit for the growers. The local associations, the district exchanges, and the California Fruit-Growers' Exchange are organized and managed by the growers on a non-profit coöperative basis, each of them operating at cost, and each

distributing the entire net proceeds to the growers after operating expenses are deducted.[37]

37. Powell, Cooperation in Agriculture, 241-242. For further discussion of the exchange see, Ibid., 242-248, 32-36; California Fruit Growers' Exchange, Current Opinion, LIX (1915), 63-64; Cook, California Citrus Culture, 103-104.

The exchange has been the means of increasing the importance of the citrus industry through the judicious use of advertising. Not only has the public been educated as to the use of the orange, but the consumption of California oranges in ten years increased from twenty one percent to seventy four percent in 1915.[38]

38. "California Fruit Growers' Exchange," Current Opinion, LIX (1915), 63. Coit, Citrus Fruits, 350-352.

A voluntary organization has also come into existence, known as the Citrus Protective League of California. The league was formed in March, 1906, by representatives of growers, shippers, and shipping organizations. It was formed with the primary purpose of dealing with problems effecting the orange industry and in turn direct and shape the public policy of the industry in relation to citrus legislation, railroad and transportation problems, customs, tariffs and other questions of a general nature. Protection of the citrus trees in California has been

brought about through measures instigated by the league.[39]

39. Cook, California Citrus Culture, 104; Coit, Citrus Fruits, 353-354. See material in regard to quarantine provisions, Wickson, California Nurserymen and the Plant Industry, 34.

The evolution of coöperative marketing has established a substantial basis for the orange industry, eliminated the risk, experienced by individual growers, and has extended the marketing area throughout North America. That coöperative marketing is meeting with favor is shown in the position it occupies among the four methods of selling. The proportion of fruit sold in 1915 by each method was as follows:

13 percent miscellaneous sales

5 percent sales by independent growers who ship to market.

20 percent Independent association sales

62 percent Sales through the California Fruit Growers' Exchange.[40]

40. Coit, Citrus Fruits, 344.

Since 1915 the tendency toward coöperative marketing has grown steadily and with increasing force. The chief importance of this development factor, has been the successful commercialization of the orange industry — without it the industry would still be in an uncertain and unscientific state, comparable to the period of the early orchards.

CONCLUSION.

The orange industry of Southern California is the resultant of many factors. The westward migration of the orange characterizes also the westward migration of peoples; wherever civilization went and the climate was productive, there also oranges were planted. The Mission Fathers found in California a rich, fertile soil, especially adapted to orange culture. Their early attempts were not followed by the Spanish Californians but rather by the American emigrants who believed more in the value of horticulture than in stock raising. The gradual drifting in of Americans brought about an industrial change. The trappers had led the way and after the gold rush, the mass of population, shifted and scattered toward the south, where the miners followed the example of the trappers. Orange culture was soon found to be conducive of fortunes; production increased, local markets were extended northward to San Francisco. Then the advent of numerous stage coach lines, railroads, colonization schemes, the division of large estates, the introduction of a more profitable variety of orange all brought about a revolution in orange culture. The infant industry grew in proportions, to such an extent that some form of marketing was needed in order to supply the newly opened markets in the East—coöperative marketing came into existence. The growth of

Southern California and of the orange industry are inter-dependent — each contributed to the growth of the other.

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